# AN EXAMINATION OF FACTORS CONTRIBUTING TO COMPATIBILITY BETWEEN INTERNS AND MENTORS WITHIN THE EDUCATION PRE-SERVICE INTERNSHIP

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## ABSTRACT

The pre-service undergraduate education internship is a short, but intensely influential period of time for both interns and mentors. Compatibility between the intern and mentor can contribute to a positive relationship and help to ensure a successful internship experience for both parties. Predicting compatibility can increase the chance of successful internship experiences.

The primary purpose of this study was to identify measurable factors contributing to intern-mentor compatibility, and to assemble those factors into a compatibility instrument. A theoretical framework informed the structure of the compatibility instrument in four categories: *personality*, *relationship skills*, *applied skills*, and *expectations*. The secondary purpose of this study was to gain insight into the ways in which *personality*, *skills*, and *expectations* intersect within the intern-mentor relationship, and how those intersections are reflected in the theoretical framework.

The results of this study were applied to five research questions: 1) What traits are perceived as critical to describe a successful internship match? 2) How do those traits group together into measurable factors? 3) How can these factors and traits be combined to create a compatibility instrument that attains the highest coverage of those factors in the smallest number of items? 4) What theoretical and practical intersections exist between categories and factors? 5) What theoretical and practical advancements can be achieved from the intersections of categories, factors, and traits?

A mixed methods research design was used to address these questions. Qualitative data was collected through interpretation panels. The results of the qualitative phase informed the creation of a 100-item pilot survey, which was deployed in

the quantitative phase. Quantitative analysis refined the pilot survey to a final 50-item compatibility instrument. The final 50-item instrument measures 17 factors across the four categories of the theoretical framework. Implications for deployment of the compatibility instrument, and directions for future research are presented.

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## DEDICATION

For Isaac and Evan

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# CHAPTER 1

## INTRODUCTION

The pre-service undergraduate education internship is a short, but intensely influential period for both interns and mentors. Interns must navigate a host of new personal and professional relationships in a potentially unfamiliar location. In dealing with an intern, mentors must find a balance between personal and professional, between partner and supervisor, between collaborator and evaluator. The intern needs to establish a space within the mentor's community, the mentor's school, the mentor's classroom, and with the mentor's students. The internship takes place entirely in the mentor's zone of control. A positive relationship between the intern and mentor can aid in overcoming these barriers to ensure a successful internship experience for both parties.

Benefits of a positive internship experience are numerous. Interns are inducted into the teaching profession, have a chance to build valuable classroom skills, and improve their comfort level in the classroom. Mentors gain valuable leadership experience, and a more comprehensive understanding of the education system. On the other hand, negative internship experiences can exacerbate the power imbalance between the intern and mentor, and hamper personal and professional growth. This negative experience may lead to disillusionment with the profession, increased stress and anxiety, high mentor teacher turnover, and even withdrawal from the profession (Bradbury & Koballa, 2008; Hobson, Ashby, Malderez, & Tomlinson, 2009).

The purpose of this study was to develop a compatibility instrument to predict successful intern-mentor matches within the pre-service education internship. The

instrument was developed using a mixed methods study that leverages the knowledge and experience of interns and mentors.

## 1.1 Background to the Problem

At the University of Saskatchewan, a need was identified to improve the process by which interns and mentors are matched for the pre-service internship. There was a desire to move beyond *program-requirements-based* matching toward *personality-compatibility-based* matching, accompanied by a transition to computer generated matches rather than matches generated by hand. Out of this need, the placement.usask.ca software was developed (Prytula, Burgess, & Solheim, 2015). In 2016 the program entered its third year, and results indicated that there was space for a more comprehensive examination of the constructs and measurable variables that correlate with compatibility in the internship setting (Solheim, Prytula, & Burgess, 2015).

Consideration of the duration, setting, and purpose of the education pre-service internship can aid in identifying the most applicable measures of compatibility. The internship is relatively short in relationship terms, so the ability to move quickly into a positive personal and professional relationship is critical. The internship takes place within the mentor's sphere of influence, so clearly defined expectations are important. The internship is a learning experience, so complementary skills will maximize the professional growth of both intern and mentor.

Comprehensive studies of the specifics of compatibility within intern-mentor relationships are sparse, particularly in the discipline of education. However, components that contribute to compatibility are well documented individually. In particular, there are detailed measures of personality (for example, Costa & McCrae,

1992; Goldberg, 1992; John, Soto, & Naumann, 2008), enumerations of critical teaching skills (for example, University of Alberta, n.d.; University of British Columbia, 2014; University of Saskatchewan, n.d.; University of Toronto, 2015), and descriptions of important expectations surrounding the internship (for example, Butler & Cuenca, 2012; Ferrier-Kerr, 2009; Izadinia, 2015b). Since there are few comprehensive studies regarding specifics of compatibility, individual measures, enumerations, and descriptions were examined in detail.

In the creation of the compatibility instrument, there was a need to identify criteria through which compatibility could be predicted and assessed. Using literature on effective teacher induction, *personality*, *skills*, and *expectations* were identified as primary categories contributing to compatibility in the internship. In developing appropriate items for the instrument, there was a need to split the skills category into *relationship skills* and *applied skills*. The final compatibility instrument is organized into four categories: *personality*, *relationship skills*, *applied skills*, and *expectations*. The categories are comprised of factors, which describe distinct elements within the category and provide subscales for the compatibility instrument. For example, *extraversion* is a factor of *personality*, and *planning* is a factor of *applied skills*. Specific traits and behaviours were used to measure these factors as individual line items on the compatibility instrument. The terms *category*, *factor*, and *trait* (or *item*), will be used throughout this study to describe the structure and composition of the compatibility instrument.

### 1.1.1 Personality

The five-factor model (sometimes referred to as the Big Five) is used to measure personality in terms of *extroversion*, *conscientiousness*, *agreeableness*, *neuroticism*, and *openness* (Costa & McCrae, 1992). It has been used extensively to predict personality and behaviour in many applications (Barrick & Mount, 1991; John et al., 2008). Within the domain of the education internship, Waters (2004) and Menges (2015) applied the model to predict support in a mentor-protégé relationship, and Kappe and van der Flier (2012) used it to predict academic success for post-secondary students. *Extroversion*, *openness*, and *conscientiousness* are repeatedly found to relate strongly to situations involving interns and mentors. Some studies have shown that perceived or expected similarity appears to be more important than measured similarity in the experience of feeling similar to another individual (Eby et al., 2013; Hu, Baranik, & Wu, 2014; Wortman, Wood, Furr, Fanciullo, & Harms, 2014).

The distinction between perceived and measured similarity of personality was addressed by Wortman, Wood, Furr, Fanciullo, and Harms (2014). They found that a perceiver's expectation of similarity with a target was more important than a calculated *profile similarity* score when considering experienced similarity. For example, an intern who expects to be similar to a mentor will feel similar to that mentor, regardless of any similarity in measured personality. For Wortman et al., much of the experienced similarity was explained by the concept of *normative* personalities. That is, a *normative* personality allowed the perceiver to map their expectations onto the target without conflict. In other words, being *normative* does not imply that you get along better with other people, but it does imply that other people get along better with you.

Personality plays an important role in job satisfaction (Kristof-Brown, Zimmerman, & Johnson, 2005), academic success (Kappe & van der Flier, 2012), and internship success (Andrew et al., 1996). However, the importance of similarity in interpersonal relationships seems context dependent. Within intern-mentor relationships similar personalities contribute to greater satisfaction with the mentorship experience (Ensher & Murphy, 1997; Hu et al., 2014). Similarly, in a large study of online dating, people formed relationships with those similar to them more often than those dissimilar to them (Fiore & Donath, 2005). However, similar personality has its limitations. Initial corporate growth is augmented by similar personalities, but long-term growth is hampered by those same similarities (Steffens, Terjesen, & Davidsson, 2012). In addition, too much dissimilarity between employees can lead to high rates of turnover and unstable organizational dynamics (Khan, Amin, & Bin Tahir, 2012). For example, Tett and Murphy (2002) found that an individual's desire for similarity or dissimilarity in working relationships varied by the personality of the individual and the situation of the relationship.

Relationships develop over time from casual to close. Although there is evidence that future closeness can be predicted very early in the relationship (Berg & Clark, 1986), that prediction is governed by variables, such as attractiveness and availability, which are applicable in dating application, but not in the current domain (internship). Similarly, *thin-slice judgements* (Houser, Horan, & Furler, 2007) are a concept used to predict relationship compatibility in very short time windows such as speed dating. In both examples the short-term judgement is based entirely on early in-person interaction characteristics. That is, the focus has been on predicting long-term relationship success

from early relationship interaction. The focus of the current study was to predict the success of the early relationship interaction before the two individuals have even met.

Personality also plays a significant role in the success of the individuals in an internship relationship. In a qualitative study, "personal qualities" were overwhelmingly identified as the contributing factor for both strong and weak teaching interns (Andrew et al., 1996). Tollefson and Kleinsasser (1992) identified a similar importance in personality traits for interns, and suggested that education programs should place a higher value on personality for both program and internship selection. For interns, the internship is a required component of the teacher-training program; for mentors, it is a voluntary position. Mentor personality affects both their participation and success in that role (Kristof-Brown et al., 2005; Niehoff, 2006).

### 1.1.2 Skills

The boundary between skills and personality can be difficult to define. Evaluation criteria that are often used to assess intern skill in pre-service education internships include behaving ethically, behaving professionally, respecting individual differences, and becoming an active part of the learning community in a school (for example, Martinet, Raymond, & Gauthier, 2001; Michigan State University, 2015; University of Alberta, n.d.; University of Arizona, 2014). These skills are treated as part of the demonstrable skill set of "being a teacher". However, many of these assessment items correspond more closely to personality attributes, such as conscientiousness, than to skills, such as technological competence.

While there are some discrepancies among sources, in examining the current context of internship and internship assessment, contributors to the umbrella term "skills

of successful teachers" can be classified into two general categories: *relationship skills* and *applied skills*. *Applied skills* pertain primarily to teacher-student interactions such as lesson delivery and classroom management. *Relationship skills* involve the maintenance of personal and professional relationships with teachers, students, parents, administration, and the community. As with many categorizations, the boundaries between these categories can be somewhat fluid. For example, technological integration and competence applies to instruction and planning, and to interpersonal communication.

In the first year of the placement program at the University of Saskatchewan there was a phenomenon of very skewed, very narrow distributions among responses to the skills questions in the existing compatibility instrument (Solheim et al., 2015). Therefore, two characteristics are desirable when identifying skills that will be used in this compatibility instrument. First, the skill should be measurable. That is, interns and mentors should be able to accurately self-identify their proficiency level for each skill. Second, the skill should elicit a range of responses. Tightly grouped distributions reduce deviations from the mean, which in turn reduces the ability to create distinct matches (Wortman et al., 2014).

Skills identified by colleges of education for intern assessment formed the backbone of the skills categories used in this compatibility instrument. These skills were moulded into a format similar to what has been used in personality assessment instruments (Saucier, 1994). The goal for this adaptation was the identification of accurately measureable items that allow for a granular calculation of each general skill.

### 1.1.3 Expectations

Expectations play a key role in the success of an internship relationship (Smith, 2010; Stobaugh & Tassell, 2011; Tollefson & Kleinsasser, 1992). In particular, conflict can arise when there is disagreement concerning the respective roles of the intern and the mentor (Bradbury & Koballa, 2008; Ferrier-Kerr, 2009; Izadinia, 2015b). For example, a mentor might view her role as that of an expert dispensing knowledge to a novice. If that mentor is matched with an intern who views the mentor role as primarily collaboration and support, a contentious relationship can form, which would be a detriment to both parties (Patrick, 2013).

Expectations concerning the goal of the internship can create similar challenges (Ferrier-Kerr, 2009; Trent, 2013). The internship might be viewed as an apprenticeship, as new teacher induction, as professional development, or as an opportunity to link theory and practice. When the intern and mentor share a similar goal for the internship, their relationship is likely to be positive and productive (Bradbury & Koballa, 2008). When the visions of the internship do not align, the relationship can become strained, compromising the learning for both intern and mentor (Hobson et al., 2009).

## 1.2 Purpose

The primary purpose of this study was to develop a compatibility instrument for predicting a successful intern-mentor relationship. Traits pertinent to the compatibility of interns and mentors were developed in conjunction with practicing interns and mentors, or *domain experts*. Insights gained from these domain experts contributed to the creation of a compatibility instrument, which was tested for validity.

The secondary purpose of this study was to gain insight into the ways that personality, skills, and expectations intersect within the intern-mentor relationship. Throughout this study the information gained from literature, research, and practice was considered for implications related to the general concept of the internship relationship.

## 1.3 Research Questions

The research questions that guided this study were:

1. What traits are perceived as critical to describe a successful internship match?
2. How do those traits group together into measurable factors?
3. How can the results from 1 and 2 be combined to create a compatibility instrument that attains the highest coverage of those factors in the smallest number of questions?
4. What theoretical and practical intersections exist between categories and factors?
5. What theoretical and practical advancements can be achieved from the intersections of categories, factors, and traits?

## 1.4 Description of the Study

This was an exploratory mixed methods study with the purpose of designing an instrument for measuring compatibility in a pre-service education internship. This study was completed in two phases. First a panel of domain experts was derived from existing interns and mentors. These experts formed interpretation panels (Noonan, 2002), and were tasked with identifying assessment items for the survey. In effect, the content of the compatibility instrument was entrusted to the domain experts.

Phase two consisted of using the information derived from the interpretation panels to design a compatibility instrument. The instrument was deployed in a large-scale pilot test. A factor analysis was conducted on the results of the pilot test to determine which factors were measured by the compatibility instrument.

## 1.5 Delimitations

The data collection for this study was conducted in the fall and winter of 2015. It was delimited to aspects of the internship, pertaining to personal and professional compatibility of the intern and mentor, to develop a compatibility instrument for use in matching interns and mentors. Other aspects of the internship such as program organization or participant preparedness were not considered here. Likewise, details of internship deployment, including specifics of the algorithm used to match interns and mentors were beyond the scope of this study.

A key component in the existing matching algorithm is the inclusion of an importance ranking (in addition to a self-rating) where participants can assign greater weight to certain responses. The importance ranking remained a component of the compatibility instrument, but was not considered in this study. A factor analysis of data collected using the previous survey found that the ranking component did not contribute information towards the identification of variables measured in the survey (Solheim et al., 2015).

## 1.6 Limitations

This study was subject to the following explicit and potential limitations:

1. Participation in this study was voluntary. Therefore, substantive groups within the education system in Saskatchewan were underrepresented in the study. In

particular, rural interns and mentors, and First Nations interns and mentors were underrepresented. Additionally, although some university- and school-based administrators were included in this study, these groups were not targeted for participation, and thus were underrepresented in the study.

2. Interns and mentors comprised the participants for the qualitative phase of this study. An overrepresentation of one of these groups may have skewed the results. Separating the interns and mentors into different interpretation panels helped to mitigate this risk.
3. This study drew on the expertise of Saskatchewan educators to facilitate internship compatibility within Saskatchewan. As such, it was specific to the placement process at the University of Saskatchewan and may not be directly generalizable to other locations.
4. By necessity the compatibility instrument needed to be fairly short in order to limit completion time. This constraint is required to ensure participation of interns and mentors in the placement program at the University of Saskatchewan. More accurate matches would be likely to result if a longer, more in-depth survey were used.

## 1.7 Definitions

The following terms are used in this proposal:

1. The internship. The internship is a period of time during which a pre-service education student is partnered with an experienced teacher for the purpose of providing the student with real-world practical experience. This construct is identified by numerous terms including internship, practicum, practice teaching,

and student teaching. The length of this experience varies among institutions around the world. For the purposes of this document, I will use the term *internship* to designate a period of extended practice teaching, generally running for at least two months.

2. Compatibility categories. Four compatibility categories were identified in this study: *personality*, *relationship skills*, *applied skills*, and *expectations*. These represent the highest organization level in the compatibility instrument.
3. Factors. Factors are specific components of the compatibility categories. Examples include *extraversion* (personality), *communication* (relationship skills), and the *role of the mentor* (expectations). They denote the middle organization level in the compatibility instrument, and they are described by a collection of similar traits. They also represent measurable subscales in the compatibility instrument.
4. Facets. Facets describe aspects of factors. They could be considered as sub-factors. For example, *warmth* and *assertiveness* are both facets of the factor *extraversion*. Facets were not directly assessed for this compatibility instrument.
5. Traits and behaviours. Traits and behaviours are specific descriptors for factors. Examples include *I am a person who is outgoing* (extraversion), and *The role of the mentor is emotional support* (role of mentor). These represent the individual line items in the compatibility instrument. These will be referred to as *traits*, *items*, or *behaviours* interchangeably throughout this study.

## 1.8 Assumptions

Most of the foundations for this research were supported by the literature, as outlined in Chapter 2. However, there are two situations where lack of clarity in the literature required the formation of assumptions about intern-mentor compatibility.

First, in assessing compatibility there is a distinction between *complementary* and *similar*. Complementary matches balance the weaknesses of one party with the strengths of the other. As discussed in Section 1.1.1, this can be a source of personal and professional growth for the individuals in the relationship. Alternatively, it may be a source of friction, which hampers the growth of the individuals. In this research, it was assumed that for personality, similarity is more important than complementarity; and for skills, complementarity is more important than similarity. This discussion ventures somewhat into the matching of interns and mentors, which is delimited within the proposed research.

Second, the interaction between expectation and reality appears to be different for personality and skills. As discussed in Section 2.6, expectations about personality compatibility can affect the experience of compatibility, regardless of what the measured personality characteristics may be. It does not seem that this effect is present for skill compatibility. Rather, a mismatch between expectation and reality can lead to friction within the relationship. In this research, it was assumed that aligning expectations with reality would result in better compatibility. Further, it was assumed that individuals who participated in the quantitative phase of this study would honestly express both their self-rating, and their expectations, on the completed compatibility instrument.

Finally, assumptions were made that individuals who participated in the qualitative phase of this research would express honest opinions during the interpretation panels, and would feel free to express those opinions. Additionally, it was assumed that individuals who participated in the quantitative study would honestly represent themselves on the compatibility instrument.

## 1.9 Significance of the Study

Pre-service internships fulfill important aspects, both academically and for professional development, within the targeted career. The significance of these outcomes has led to a wealth of research regarding the importance of internships for intern and mentor development (Bradbury & Koballa, 2008; Scholz, Steiner, & Hansmann, 2003; Smith, 2010). Within Saskatchewan, successful completion of an internship is necessary to receive a teaching certificate in the province.

Personality attributes have repeatedly been shown to contribute to interpersonal relationships (Ensher & Murphy, 1997; Houser et al., 2007; Wortman et al., 2014), academic success (Kappe & van der Flier, 2010; 2012), and internship success (Niehoff, 2006; Tollefson & Kleinsasser, 1992). Personality traits can predict intern-mentor conflict after initial contact (Bradbury & Koballa, 2008; Hu et al., 2014), relationship progression based on initial contact (Houser et al., 2007), and level of similarity with known acquaintances (Wortman et al., 2014). These situations involve correcting or encouraging the relationship after it has already begun. To match two individuals who have never met into a collaborative, professional relationship, these techniques provide useful structure, but ultimately fall short of the desired goal. This study will bridge the

gap from the use of personality for assessment and diagnosis, to the use of personality for prediction of future compatibility.

Within the discipline of education, skills such as communication, professionalism, planning, and classroom management are shown to be valuable for teachers (Martinet et al., 2001; University of Arizona, 2014; University of British Columbia, 2014; University of Toronto, 2015). There are recommendations for personality to be a heavily weighted selector for admission to teachers college and to the internship (Harrison, Smithey, McAffee, & Weiner, 2006). Mentor teachers are influential figures for interns, sometimes more so than university professors, and an ability to get along with the cooperating teacher is recognized as important within the internship (Hastings, 2004). Unfortunately, the construct "get along with" is not often unpacked, and is seldom suggested as a predictor of success in the internship. The current study quantified measurable variables for this construct in the domain of the education pre-service internship.

The instrument developed in this study has relevance specifically for colleges of education. A review of internship literature and placement processes currently used at universities indicates that the approach in use at the University of Saskatchewan is unique within this country. Moreover, many aspects of this instrument are applicable across disciplines. With some adjustment, the instrument could be modified for use in other internship situations, such as those found in Health Sciences, Pharmacy, or Engineering.

### 1.10 Organization of this Document

This study consists of five chapters. The current chapter introduces the problem under consideration in this study. Chapter 2 contains a literature review summarizing

relevant research pertaining to the internship, compatibility, personality, skills, and expectations. The methodology and methods employed in this study are described in Chapter 3. Chapter 4 contains a description of the results of the qualitative and quantitative data collection. Finally, Chapter 5 includes a discussion of the results and an outline of ideas and implications for future research.

# CHAPTER 2

# LITERATURE REVIEW

The primary purpose of this study was the creation of a compatibility survey for predicting compatibility between interns and mentors. This chapter advances that purpose through a review of relevant literature, and the subsequent establishment of criteria for measuring compatibility in the intern-mentor relationship. These criteria formed an initial list of compatibility traits, which was presented to the interpretation panels as described in Chapter 3. The secondary purpose of this study was a better understanding of the interaction between *personality*, *skills*, and *expectations* within the internship relationship. This purpose was addressed through the identification of a theoretical framework that guided the development of the compatibility instrument.

This chapter begins with an overview of the internship (Section 2.1) and current matching techniques (Section 2.2). The compatibility categories identified in Chapter 1 are elaborated on (Section 2.3), and mined for measurement criteria in the areas of personality (Section 2.4), relationship skills (Section 2.5.1), applied skills (Section 2.5.2), and expectations (Section 2.6). Finally, a theoretical framework is identified to tie the categories together (Section 2.7).

## 2.1 The Internship

The education pre-service internship is a period of practice teaching during which the student teacher (intern) is paired with an experienced cooperating teacher (mentor). The stated goals of the internship vary slightly depending on the institution, but there are several common themes. Internships aid in the development of a professional identity, they promote the intersection of theory and practice, and they provide opportunities to

expand instructional and management skills. Additionally, internships provide institutions with the ability to assess interns in a classroom setting prior to conferring a degree or diploma. The internship is often a requirement of teacher certification.

A positive professional identity is a critical component for self-confidence within the role of teacher, as well as for teacher retention (Izadinia, 2015a). Hong (2010) also linked professional identity with teacher retention, and argued that strong professional identities lead to teachers with a long-term commitment to the profession. Mentors play the primary role in the development of that professional identity, whether negative or positive. A poor intern-mentor relationship compromises negotiation and discourse, which affects intern agency, and can have a negative impact on the formation of a professional identity (Cattley, 2007; Trent, 2013).

There is an impression prevalent in education that university learning is theory while internship learning is practice, and that there is no middle ground between these extremes (Allen, 2011). Allen and Wright (2014) characterized the dichotomy between theory and practice as a rift where theory is criticized and practice is lauded, and they stated, "the schism between theory and practice seems almost synonymous with teacher education programmes" (Allen & Wright, 2014, p. 137). However, despite this disparate characterization, Allen and Wright found that both interns and mentors had considerable interest in linking theory and practice. In the presence of a positive intern-mentor relationship, the interaction between theory and practice can provide valuable opportunities for professional growth for both parties (Ferrier-Kerr, 2009; Roland & Beckford, 2010). Unfortunately, the theory-practice conflict is exacerbated when the relationship is not collaborative (Patrick, 2013).

Mentors are strongly influential in the intern's development of classroom skills (Hobson et al., 2009). In fact, the influence of the intern-mentor relationship is so great that it can be difficult to discuss skill development without it. Poor relationships stifle development (Patrick, 2013), while positive relationships foster it (Ferrier-Kerr, 2009). Roland and Beckford (2010) characterized skill development as a result of opportunities to integrate theory and practice. However, they went on to explain that a positive relationship provides those opportunities. The pattern "skills developed as a result of…" is common in the literature. A notable exception is He (2009), who flipped this model and claimed that behavioural changes and personal growth were the result of identifying skills contributing to past experiences. She used this perspective to develop a mentorship method with a focus on affirming strengths identified by examining past experiences.

The internship is an assessed component of a pre-service education program (for example, University of Alberta, n.d.; University of British Columbia, 2014; University of Saskatchewan, n.d.). Smith (2010) characterized this summative assessment as a "gate keeping function" that "protect[s] the profession from incompetence" (p. 37). The role of assessor can colour the intern-mentor relationship. If the role is absent of collaboration, the intern loses agency and the relationship suffers (Patrick, 2013). If the role is collaborative, respect and trust are reinforced and there is greater opportunity for professional growth (Ferrier-Kerr, 2009). The dual role of assessor and collaborator is a commonly cited source of personal conflict for mentors (Cattley, 2007; Hudson, 2013; Patrick, 2013; Smith, 2010).

## 2.2 Current Internship Matching Techniques

There is a considerable body of research stating that the internship is a valuable experience, and that the intern-mentor relationship is a key component for the success of that experience (for example, Cattley, 2007; Ferrier-Kerr, 2009; Izadinia, 2015a; Tollefson & Kleinsasser, 1992). However, very little consideration seems to be given to the process for matching interns and mentors. Some studies provided a passing mention of the matching process being conducted by hand, and based primarily on program requirements (Abell, Dillon, Hopkins, McInerney, & OBrien, 1995; Bradbury & Koballa, 2008; Hetherington, 2014; Patrick, 2013). Others included a call for greater attention to be paid to the matching process (Croker & Wilder, 1999; Kline, White, & Lock, 2013; Koballa, Upson Bradbury, Glynn, & Deaton, 2008). Relatively few researchers seem to have answered that call.

Three studies used Myers Briggs-style personality assessments to match interns and mentors in an educational internship (Kitchel & Torres, 2007; J. A. Lawley, 2012; Tripp & Eick, 2008). Kitchel and Torres (2007) used the Myers Briggs Type Indicator to place 28 interns. They found that a perception of similarity led to a perception of satisfaction with the internship relationship. Lawley (2012) placed 32 interns using the True Colors personality assessment, which is a simplification of the Myers Briggs model. She found that interns and mentors placed randomly experienced higher relationship satisfaction than those matched deliberately. However, there appear to be some methodological issues with this study, and a lack of granularity in the assessment instrument. Tripp and Eick (2008) used a modification of the True Colors assessment, and concluded that a level of dissonance in matches promoted professional growth.

However, in this case their sample size was only four interns, which compromises generalizability of their results.

The University of Regina requires interns and mentors to complete the Myers Briggs Type Indicator (University of Regina, 2015). However, they do not use this information to match interns and mentors. Instead, interns and mentors use the personality profiles to direct a conversation following the assignment of the match. The goal of this approach is the definition of a framework to discuss personality differences and working styles, which encourages development of strategies to address potential compatibility issues in the internship.

In a cross-discipline meta-analysis of research into perceptions of mentoring, Eby et al. (2013) found that perceptions of personality similarity were the strongest predictors of mentor support and the quality of the internship relationship. They suggested that matching individuals based on perceived and measured personality indicators could have a positive effect on the internship experiences. Menges (2015) conducted a study using the five-factor model to connect personality with career and psychosocial support for a business internship in Switzerland. She found that openness was a strong predictor of career support, and openness combined with conscientiousness predicted psychosocial support.

There are logistical issues that surround internship placements and conspire to impede the implementation of a personality-based matching program. Paramount among those issues is a shortage of mentors, which has been the experience at the University of Saskatchewan, and is echoed by researchers in Australia (Patrick, 2013) and the United States (Abell et al., 1995). When there is a shortage of mentors, basic-requirements-

matching becomes the primary goal. Patrick (2013) stated that expediency in placements is unavoidable given the competition that institutions face to secure mentors. Proximity is often seen as a basic requirement and has been considered a detrimental matching criterion (Kitchel & Torres, 2007), although external social supports appear to be very important for interns placed into rural and remote settings (Kline et al., 2013).

Due to a lack of collated information, published reports of the internship matching process in colleges of education are unavailable. Prior to this study, work in the University of Saskatchewan College of Education included conducting a brief scan of college of education internship placement approaches across universities in Western Canada and the United States through websites and further calls to determine existing practices for placement of interns (College of Education, 2015). In all cases the primary priority for placements is matching program requirements, with the secondary priority being location preference. All the institutions collect additional personal information from interns corresponding to previous experience, preferences, and sources of conflict. This information is considered when matching interns and mentors; however there is no guarantee that it will be used, and it does not drive the placement process.

All colleges of education assign internship placements by hand. In most cases one or two individuals complete this process. Michigan State University is an exception as they take a team-based approach to internship placement, where local coordinators, school principals, and mentor teachers are heavily involved in the placement process (College of Education, 2015). All institutions rely on their placement personnel to have individual knowledge of interns and mentors to predict when two people will get along.

## 2.3 Personality, Skills, and Expectations

The research reviewed in this chapter was taken primarily from the disciplines of Psychology (personality) and Education (skills and expectations). Unsurprisingly, these two bodies of literature are considerably different in approach, focus, and terminology. Therefore, some orientation is required to explain the selection of the measurement categories, and to clarify the terms that will be used throughout the rest of this chapter.

The initial goal of the placement program at the University of Saskatchewan was to match interns and mentors based on personality and skills (Prytula et al., 2015). There is ample research in support of the idea that compatible personalities contribute to a successful internship relationship (Izadinia, 2015b; for example, Khan et al., 2012). Likewise, development of skills is an important aspect of the internship (for example, Ferrier-Kerr, 2009; Roland & Beckford, 2010). Moreover, the internship is an assessed component of the pre-service education program, and development of skills is commonly the measurement used for that assessment (for example, Martinet et al., 2001; University of British Columbia, 2014; University of Toronto, 2015).

In considering a revision to the existing compatibility survey, psychology literature on personality measurement was consulted to inform the personality section of the new survey. This literature is generally tightly focused, with consistent use of terms and measurement techniques (John et al., 2008). By comparison it took very little time to come across a variety of terms for the internship itself in the education literature (see Abell et al., 1995; Ferrier-Kerr, 2009; He, 2009; Patrick, 2013; Roland & Beckford, 2010), and there is similar multiplicity when naming the roles of intern and mentor.

When describing specific skills, traits, and behaviours pertaining to the internship, the variety in naming becomes overwhelming.

The *personality* category for the new compatibility survey is informed by personality assessments within the psychology literature. Within this literature, personality characteristics are referred to as factors and the measurement items on an assessment are traits or behaviours. Items in the *personality* category for the compatibility instrument are taken from the Big Five Inventory (BFI-44) developed by John et al. (1991), which described traits using short phrases (see Table 2.3). Due to the kaleidoscopic nature of the education literature, an effort is made in this chapter to generate a similarly structured set of factors and traits for skills and expectations. Table 2.1 provides a high-level view of the compatibility survey structure.

**Table 2.1** Factors contributing to the compatibility categories

| | Skills | | |
|---|---|---|---|
| Personality (p. 27[a]) | Relationship (p. 44) | Applied (p. 52) | Expectations (p. 65) |
| Openness | Diversity and equity | Planning | Role of mentor |
| Conscientiousness | Reflection | Instruction | Role of intern |
| Extraversion | Communication | Assessment | Goal of internship |
| Agreeableness | Professionalism | Content Knowledge | |
| Neuroticism | | Classroom Management | |
| | | Meta-teaching activities | |
| | | Technology | |

[a]Page numbers refer to the location in Chapter 2 where details of these skill categories may be found

A review of intern assessment forms used by colleges of education (see Martinet et al., 2001; University of British Columbia, 2014; University of Toronto, 2015) suggests that the skills category should be split between specific "classroom" skills (here called applied skills), and more general "teacher" skills (here called relationship skills). Skills within these categories are organized at the same level as personality factors, within the

proposed survey structure. Traits and behaviours are derived from specific items on the intern assessment forms, and are formatted to follow the short phrase pattern of the big five inventory.

Within education literature, a consistent enumeration of personality characteristics and skills is difficult to discern. Ornstein and Lasley (2000) summarized categorizations of teacher characteristics and competencies, which can mostly be mapped to personality and skills as defined in Table 2.1. Characteristics are described with bipolar groupings such as understanding, friendly, and responsive versus aloof and egocentric; or by dimensions, such as creative and dynamic. Competencies incorporate practical skills including task orientation, questioning, and feedback. Most other literature reviewed is less clearly structured than Ornstein and Lasley (2000).

One consistent theme within research on the education pre-service internship is the role that expectations play in defining the intern-mentor relationship (Bradbury & Koballa, 2008; Ferrier-Kerr, 2009; Hastings, 2010; He, 2009; Patrick, 2013; Trent, 2013). Misalignment of intern skill levels with mentor expectations (and vice versa) can result in unsuccessful internship experiences (Andrew et al., 1996; Smith, 2010; Stobaugh & Tassell, 2011). This is not a topic addressed through intern assessment forms, although three distinct expectation factors were identified from the literature. Specific traits will be defined for these factors to provide a structure similar to the other categories.

## 2.4 Personality

Research has shown that personality is an important component of internship success (Andrew et al., 1996; Ensher & Murphy, 1997; Hastings, 2004). However, in these instances the factor personality is rarely unpacked to identify which aspects of

personality are important. Within psychology literature there is an extensive body of research pertaining specifically to measurement of personality. This research spans decades and consists of several well-defined and extensively validated personality assessment inventories.

A case will be made in this section for employing the five-factor model (FFM) for personality measurement in the current study. The factors in the five-factor model are *conscientiousness*, *agreeableness*, *extraversion*, *neuroticism*, and *openness*. It has been extensively studied and is becoming the dominant model in the literature (John et al., 2008). Additionally, the existence of a variety of assessment instruments makes it particularly well suited to the current study. It is not the only model however, and Section 2.4.1 will provide a brief background to some other personality frameworks. Section 2.4.2 will describe the five factors and Section 2.4.3 will review a selection of assessment instruments for the five-factor model.

### 2.4.1 Alternatives to the Five-Factor Model

Raymond Cattell developed The Sixteen Personality Factor Questionnaire (16PF), which was initially published in 1949 (Cattell & Mead, 2008). It is a comprehensive questionnaire-style instrument, and its intended use is the measurement of normal, as opposed to deviant, personalities. The 16 primary factors in the model are organized in a hierarchical structure and then reduced to five global bipolar factors. This structure is comparable to the factors and factor-specific traits identified by Costa and McCrae (1992) in the five-factor model, although the interpretation of the five general factors is somewhat divergent. In this personality model, individuals in social occupations (including teaching) tend towards extraversion, receptivity, low anxiety, and self-control

(Cattell & Mead, 2008). These findings agree with research done using the FFM (Kappe & van der Flier, 2012; Niehoff, 2006; O'Connor & Paunonen, 2007).

The Revised Eysenck Personality Questionnaire (EPQ-R) uses a three-factor model in a 100-item questionnaire (Furnham, Eysenck, & Saklofske, 2008). The factors in this model are extraversion, neuroticism, and psychoticism. Extraversion and neuroticism are defined as in the FFM, while psychoticism is a more contentious choice. Eysenck claimed that psychoticism subsumes openness, agreeableness, and conscientiousness under a more general factor (Furnham et al., 2008), while Costa and McCrae (1992) insisted that they are distinct and should be measured separately. Interestingly, the EPQ-R instrument uses a lie scale to identify dissimulation, and there is evidence that the lie scale may represent a distinct personality factor in itself (Furnham et al., 2008). Some FFM instruments also use a lie scale (Jensen-Campbell, Iyer-Eimerbrink, & Knack, 2015).

The models developed by Cattell (16PF) and Eysenck (EPQ-R) were developed earlier than the FFM, and they dominated the personality assessment literature until the mid-1990s. More recently, the FFM has achieved prominence among researchers (John et al., 2008). John et al. (2008) calculated that between 2005 and 2009 fewer than 250 papers were published using Cattell and Eysenck's models combined. In the same period, more than 1500 papers were published using the FFM. In part this may be due to the conceptual complexity of the models. Cattell's hierarchical model with 16 factors is too complex, while the three factors identified by Eysenck are too general (Boyle, 2008).

Another active member of the FFM debate in the 1990s was Marvin Zuckerman. He developed the Zuckerman-Kuhlman Personality Questionnaire (Zuckerman, 1992),

which used a different set of five factors: neuroticism-anxiety, impulsive sensation-seeking, aggression-hostility, sociability, and activity. In more recent years, the HEXACO model was developed to extend the FFM to a sixth factor: honesty-humility (Ashton & Lee, 2008). This model also redefines neuroticism as emotionality. Hogan and Hogan (R. Hogan & Hogan, 2007) presented a seven-factor expansion of the FFM by subdividing extraversion and openness. Although their factors deviate slightly from the FFM, the primary difference is that extraversion was split into sociability and ambition, while openness was split into inquisitive and learning approach.

The core self-evaluations scale (CSE) measures personality in four dimensions: locus of control, neuroticism, generalized self-efficacy, and self-esteem (Judge, Erez, Bono, & Thoresen, 2003). Hu, Baranik, and Wu (2014) used the CSE scale along with a measure of altruism to identify predictors of poor mentor-protégé relationships in the presence of deep-personality conflicts.

### 2.4.2 The Five-Factor Model

The five-factor model (FFM) measures personality along five basic personality factors: agreeableness, openness, neuroticism, extroversion, and conscientiousness. The factors are claimed to be "basic" in the sense that they are consistent across ethnic and gender boundaries, they are stable in longitudinal studies, there are analogous constructs in other personality models, and they have some physical neurological or biological basis (Costa & McCrae, 1992). While there have been some criticisms of the five-factor model (Block, 1995; H. J. Eysenck, 1992; Zuckerman, 1992), it has gained widespread acceptance and has been extensively validated (Gosling, Rentfrow, & Swann, 2003; John et al., 2008).

The FFM has been a subject of debate in the literature since the 1980s. In the intervening 30 years the explanation and description of the five factors has mostly converged, although there continues to be discussion about which facets actually comprise the general factors (John et al., 2008). The FFM is frequently referred to as the Big Five; a term that was coined by Goldberg in 1981 to describe the broad, general nature of the factors, rather than the prevalence of the model. Despite minor differences in factor-specific traits, the terms "Big Five" and "Five-Factor Model" are often used interchangeably (John et al., 2008). This document follows this naming trend and uses both terms.

Paul Costa and Robert McCrae are the researchers most frequently related with the FFM. Many of the references cited in this section refer to a common hierarchy where each of the five factors is comprised of six factor-specific facets (Table 2.2, adapted from Costa & McCrae, 1992). The broadness of the factors results in somewhat blurry and ill-defined boundaries between the factors, and there has been considerable discussion around the appropriateness and descriptiveness of the English factor and facet names (John et al., 2008). For the purpose of the current study this discussion is interesting, but ultimately not applicable. However, it is useful to provide some detail about the five factors themselves.

Due to the blurry boundaries between factors there is some discrepancy in factor descriptions. The following discussion will defer to John et al. (2008), and Costa and McCrae (1992; John et al., 2008) for default terminology, although variations will be indicated where warranted. Costa and McCrae were chosen because, as stated above, they are frequently tied to discussions of the FFM in the literature. John et al. are

referenced here as they provide the measurement instrument that will be employed in this survey.

**Table 2.2** Factors and facets for the five-factor model

| | |
|---|---|
| Neuroticism | Agreeableness |
| Anxiety | Trust |
| Angry Hostility | Straightforwardness |
| Depression | Altruism |
| Self-consciousness | Compliance |
| Impulsiveness | Modesty |
| Vulnerability | Tender-mindedness |
| Extraversion | Conscientiousness |
| Warmth | Competence |
| Gregariousness | Order |
| Assertiveness | Dutifulness |
| Activity | Achievement striving |
| Excitement seeking | Self-discipline |
| Positive emotions | Deliberation |
| Openness | |
| Fantasy | |
| Aesthetics | |
| Feelings | |
| Actions | |
| Ideas | |
| Values | |

Note: Adapted from Costa and McCrae (1992)

#### 2.4.2.1 Extraversion

Extraversion is characterized with traits such as gregariousness and assertiveness (Table 2.2) and is operationalized in individuals through high social skills and extra-curricular participation (John et al., 2008). Goldberg (1992) and Saucier (1994) used the term *surgency* to refer to the concept of extraversion. Extraversion tends to correlate strongly with agreeableness (John et al., 2008).

Individuals with high extraversion scores generally enjoy a high social status, with numerous friends and leadership opportunities. Those with low extraversion scores might experience social rejection and have difficulty maintaining relationships (John et

al., 2008). Extraversion has been linked to impressions of similarity (Wortman et al., 2014), academic success (O'Connor & Paunonen, 2007), and mentorship participation (Niehoff, 2006).

Extraversion can be a particularly tricky factor. The various descriptions of the trait are summed up well by Jensen-Campbell, Iyer-Eimerbrink, and Knack (2015). They claimed that different interpretations of extraversion lead to different behaviours, particularly with respect to the aggression/agreeableness divide. This claim runs counter to Gosling et al. (2003) who stated:

> for constructs, such as extraversion, that are widely understood, it is more straightforward to simply ask a person how extraverted he is than to ask him whether he enjoys the company of others, attends parties frequently, is talkative, outgoing, gregarious, and enthusiastic (p. 504).

#### 2.4.2.2 Openness

Openness is characterized with traits such as aesthetics and feelings (Table 2.2) and is operationalized in individuals through broad interests and extensive travel. It appears to be the most debated of the Big Five with regard to interpretation (Costa & McCrae, 1992; Goldberg, 1992; John et al., 2008). The debate centres on the nature of the adjectives used to describe the factor. Descriptors such as "feelings" and "values" lead to the factor openness, while cognitively focused adjectives such as "inquisitive" and "perceptive" lead to the factor intellect (Costa & McCrae, 1992).

Goldberg (1992) and Saucier (1994) exclusively used the factor intellect, although Saucier has also suggested the term imagination. Costa and McCrae (1992) and John et al. (2008) used the factor openness. Gosling et al. (2003) used a third variant openness to

new experiences to emphasize openness as a more general term than intellect. In practice, openness to new experiences as described by Gosling et al. is functionally similar to openness as described by Costa and McCrae.

Individuals with high openness scores tend to complete more years of education, and they exhibit higher levels of creativity. Those with low openness scores might display more conservative and close-minded views (John et al., 2008). Openness is a positive predictor of mentor participation (Niehoff, 2006).

#### 2.4.2.3 Conscientiousness

Conscientiousness is characterized with traits such as dutifulness and self-discipline (Table 2.2) and is operationalized in individuals through leadership skills and long-term planning (John et al., 2008). There is relatively little argument over the description and label for conscientiousness, although there has been some debate about its inclusion as a distinct factor (Costa & McCrae, 1992; H. J. Eysenck, 1992; Zuckerman, 1992).

Individuals with high conscientiousness scores tend to exhibit better job performance, and may even experience longer lives. Those with low conscientiousness scores may exhibit more self-destructive behaviours such as smoking, poor diet, lack of exercise, and substance abuse. Conscientiousness has been very strongly linked to mentor participation (Niehoff, 2006), academic success (Kappe & van der Flier, 2012; O'Connor & Paunonen, 2007), and experienced similarity (Wortman et al., 2014).

#### 2.4.2.4 Neuroticism

Neuroticism is the only overtly negative factor among the Big Five and is sometimes given the label of nervousness (John et al., 2008). It is characterized with

traits such as depression or anxiety (Table 2.2) and is operationalized in individuals through low self-esteem and pessimistic attitudes (John et al., 2008). This is the most commonly renamed factor in the Big Five, in part due to its negative connotation. Goldberg (1992) and Saucier (1994) employed a reversed factor called emotional stability in the place of neuroticism, as did Wortman et al. (2014). Kappe and van der Flier (2012) focused on anxiety as distinct, but related to, neuroticism.

The negative name associated with this factor is not a concern, as each big-five personality factor corresponds to a continuum. Therefore, individuals will be located on a spectrum from emotional stability to neuroticism, but will rarely be placed at the extremes. Moreover, the personality assessment instruments described in section 2.4.3 employ both positive and negative items for each of the five factors regardless of whether the factor has a positive or negative name.

Individuals with high neuroticism scores have fewer coping mechanisms and are more likely to be subject to burnout. Those with low neuroticism scores experience stronger feelings of commitment and higher relationship satisfaction (John et al., 2008). Neuroticism has shown connections to academic success, though it is not as influential as conscientiousness, openness, and extraversion (Kappe & van der Flier, 2012; O'Connor & Paunonen, 2007).

#### 2.4.2.5 Agreeableness

Agreeableness is characterized by traits such as straightforwardness and altruism (Table 2.2) and is operationalized in individuals through forgiveness and cooperation (McCrae, 2008). As with conscientiousness, there has been debate about the inclusion of agreeableness as a distinct factor (Costa & McCrae, 1992; H. J. Eysenck, 1992).

Additionally, agreeableness correlates with extraversion, particularly on the factor-specific facet warmth (John et al., 2008). As a result, the measurement scales used by John et al. (1991), Goldberg (1992), and Saucier (1994) have diverged slightly from those used by Costa and McCrae (1992).

Individuals with high agreeableness scores tend to perform better in collaborative situations. Those with low agreeableness scores tend to experience more interpersonal problems (John et al., 2008). Agreeableness has been strongly linked to perceptions of similarity (Wortman et al., 2014).

### 2.4.3 FFM Measurement Instruments

Numerous instruments have been developed to measure the five-factor model. They range from comprehensive and in-depth (Costa & McCrae, 1992) to extremely short (Gosling et al., 2003; Rammstedt & John, 2007). They employ a variety of strategies including questionnaire (Costa & McCrae, 1992), adjectival association (Goldberg, 1992; Saucier, 1994; Trapnell & Wiggins, 1990), and short phrases (Gosling et al., 2003; John et al., 2008; Rammstedt & John, 2007). This section will highlight some of these instruments and discuss their applicability for the current study.

#### 2.4.3.1 The NEO Inventories

The Revised NEO Personality Inventory (NEO-PI-R) was published by Costa and McCrae (Costa & McCrae, 1992). It was the first widely used five-factor instrument, and remains the most extensively validated five-factor measurement (John et al., 2008). It has been replicated across culture and language boundaries (Costa & McCrae, 1992), and has recently been adapted for use in children down to age 12 (Costa & McCrae, 2008). A

shorter version of this instrument is the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992).

The NEO-PI-R is a questionnaire that consists of 240 questions and takes approximately 40 minutes to complete. It measures specific personality facets contributing to the five factors as outlined in Table 2.2, and provides an aggregated score for each general factor. That is, the NEO-PI-R would provide not just a level on the neuroticism spectrum, but also a breakdown of the individual's level for anxiety, depression, impulsiveness, and so on.

The NEO-FFI measures the five basic constructs at the expense of an accurate assessment of the specific facets. It employs just 60 questions taken from the 240 in the NEO-PR-R, and can be completed in 15 minutes. Although these questions were constructed to measure specific facets, the aggregate factor score is more statistically reliable than the specific facet scores (Costa & McCrae, 2008).

For application to the current study, the NEO inventories provide some compelling information. In the entirety of a personality, some facets will be more influential for an intern-mentor relationship. Although the ability to target those specific traits for a compatibility calculation is attractive, at 40 minutes the NEO-PI-R is prohibitively long. Moreover, the licencing agreements for the NEO inventories require trained adjudication and assessment of the instruments, and make it difficult to undertake modification of the instruments.

#### 2.4.3.2 Trait-Descriptive Adjectives

Personality assessment through Trait-Descriptive Adjectives (TDA) provides a contrast to the questionnaire-based instruments of the NEO inventories. The discovery of

the FFM and other models in the 1980s was driven by categorization of descriptive adjectives into general factors (John et al., 2008). Goldberg (as cited in Trapnell & Wiggins, 1990) enumerated a list of 1,710 adjectives, while Norman (as cited in Wiggins, 1979) provided a pool of 2,800 adjectives. Instruments using this technique to assess the FFM were a natural outgrowth of this early adjective analysis.

The technique employs a Likert-type scale, where the items are not statements or questions. Instead, they use single-word descriptors, which has the advantage of allowing for very fast completion of many items. For example, Goldberg's (1992) TDA instrument has 100 adjectives and takes approximately 15 minutes to complete (John et al., 2008). Unfortunately, single-word items allow for larger variation in interpretation, which can compromise the assessment (Hofstee, de Raad, & Goldberg, 1992; John et al., 2008; Trapnell & Wiggins, 1990).

There were a few attempts in the early 1990s to combine the hierarchical FFM model with a circumplex model using adjectival measurement. A circumplex model situates personality tendencies in a 2-dimensional plane (Figure 2.1 reproduces from Trapnell & Wiggins, 1990). The Revised Interpersonal Adjective Scales (IASR-B5; Trapnell & Wiggins, 1990) used 92 trait-descriptive Big Five adjectives to locate personalities in a plane with dominance and nurturance as axes. The Abridged Big Five Dimensional Circumplex (AB5C; Hofstee et al., 1992) extended that idea to 10 circumplexes: one for each combination of two of the five factors. This has the unfortunate side effect of producing a very complex, unwieldy model where the effect of misrepresenting terms is magnified. For example, Hofstee et al. (1992) used a thesaurus to find synonyms of the terms in their instrument and were able to trace a path from

aggressive to active to restless to nervous to timid to bashful. Each of these terms represents a distinct factor combination in their model and five misinterpretations would move an individual to the complete opposite end of the spectrum. Given the dangers of misinterpreting the adjectives combined with the complexity inherent in a model whose diagram takes 10 pages, the AB5C is too unwieldy for practical application despite its intriguing premise.

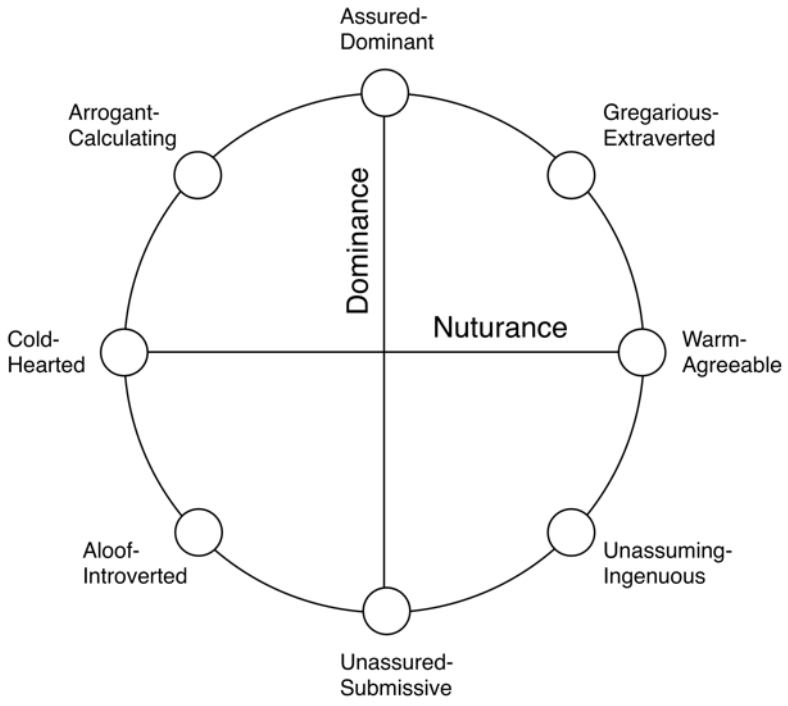


**Figure 2.1** Circumplex model of interpersonal behaviour reproduced from Trapnell and Wiggins (1990)

Adjectival measurement has also been employed strictly within the FFM. Goldberg (TDA; Goldberg, 1992) developed two measurement instruments based on this technique: a unipolar list with 100 items where each adjective is assessed separately, and a bipolar list of opposites taken from the 100 items in the unipolar list. For example, the opposites silent and talkative were assessed individually and then as the single bipolar term silent-talkative. Saucier (1994) streamlined Goldberg's unipolar list to just 40

terms, and provided an instrument that can be completed in just five minutes. Table 2.3 compares the list of extraversion adjectives in the two instruments.

Trait-descriptive adjectives represent an intriguing opportunity for assessment instruments. Understanding items requires lower reading comprehension, and the assessments can be completely very rapidly. Unfortunately, the lack of context for each item can lead to misinterpretation of the adjective, which will increase misrepresentations of individuals completing the assessment. Moreover, the circumplex models, while visually compelling, are prohibitively complex.

**Table 2.3** Adjectival and short phrase extraversion measurement items

| Goldberg (1992)[a] | Saucier (1994)[a] | John et al. (2008)[b] |
|---|---|---|
| Positive | | |
| Extraverted | Talkative | Is talkative |
| Talkative | Extroverted | Is full of energy |
| Assertive | Bold | Generates a lot of enthusiasm |
| Verbal | Energetic | Has an assertive personality |
| Energetic | | Is outgoing, sociable |
| Bold | | |
| Active | | |
| Daring | | |
| Vigorous | | |
| Unrestrained | | |
| Negative | | |
| Introverted | Shy | Is reserved |
| Shy | Quiet | Tends to be quiet |
| Quiet | Bashful | Is sometimes shy, inhibited |
| Reserved | Withdrawn | |
| Untalkative | | |
| Inhibited | | |
| Withdrawn | | |
| Timid | | |
| Bashful | | |
| Unadventurous | | |

[a]Items are listed in order of their statistical contribution to the extraversion factor

[b]Items in this list are prefaced with the phrase "I am someone who…"

The opportunities inherent in this technique lie in the adaptation of existing instruments to the current study. Interpretation panels could conduct an adjectival trait assignment based on perceived importance to the teaching profession, the internship, and the intern-mentor relationship. This approach would result in a unique instrument, specific to pre-service education internships, that is inspired by, but not reliant upon, existing well-established personality models.

#### 2.4.3.3 The Big Five Inventory

The Big Five Inventory (BFI-44; John et al., 1991) presents a balance between robust questionnaire-style items (NEO-PI-R) and simple single term trait-based adjectives (TDA). It uses short phrases to measure personality scores for the FFM. The short phrases avoid the misinterpretation pitfalls associated with TDA while retaining the rapid completion time. The BFI-44 contains 44 items and can be completed in 5 minutes. Table 2.3 shows the assessment items for the extraversion scale compared against two adjectival measurement scales; the complete instrument can be found in Table 2.4.

The BFI-44 was constructed out of the same adjective pool that gave rise to the TDA (John et al., 2008). Therefore, the five factor descriptions are closer to Goldberg's (1992) instrument than to Costa and McCrae's NEO inventories (Costa & McCrae, 1992). In particular the BFI-44 correlates extraversion more strongly with assertiveness and less strongly with positive emotions when compared against the NEO inventories (John et al., 2008). However, unlike the NEO-PI-R, the BFI-44 is not intended to measure factors at the level of specific facets.

Short phrases are effectively adjectives with context. Therefore, the instrument adaptation suggested in the previous section is applicable here, and the BFI-44 could be

adapted for use in internship scenarios. In fact, due to the context provided by short phrases, this application has advantages over single-word descriptors (John et al., 2008).

**Table 2.4** The Big Five Inventory (BFI-44, John et al., 1991)[a]

| Agreeableness | Conscientiousness |
|---|---|
| Tends to find fault with others | Does a thorough job |
| Is helpful and unselfish with others | Can be somewhat careless |
| Starts quarrels with others | Is a reliable worker |
| Has a forgiving nature | Tends to be disorganized |
| Is generally trusting | Tends to be lazy |
| Can be cold and aloof | Perseveres until the task is finished |
| Is considerate and kind to almost everyone | Makes plans and follows through with them |
| Is sometimes rude to others | Does things efficiently |
| Likes to cooperate with others | Is easily distracted |
| **Extraversion** | **Openness** |
| Is talkative | Is original, comes up with new ideas |
| Is reserved | Is curious about many different things |
| Is full of energy | Is ingenious, a deep thinker |
| Generates a lot of enthusiasm | Has an active imagination |
| Tends to be quiet | Is inventive |
| Has an assertive personality | Values artistic, aesthetic experiences |
| Is sometimes shy, inhibited | Prefers work that is routine |
| Is outgoing, sociable | Likes to reflect, play with ideas |
| | Has few artistic interests |
| | Is sophisticated in art, music, or literature |
| **Neuroticism** | |
| Is depressed, blue | |
| Is relaxed, handles stress well | |
| Can be tense | |
| Worries a lot | |
| Is emotionally stable, not easily upset | |
| Can be moody | |
| Remains calm in tense situations | |
| Gets nervous easily | |

[a]Items in this list are prefaced with the phrase "I am someone who…"

#### 2.4.3.4 Ten-Item Scales

The first versions of the NEO inventory were published in the 1980s, and most subsequent instruments have reduced the length and completion time of the instruments.

The NEO-FFI (Costa & McCrae, 1992) was a shortened version of the NEO-PI-R. The BFI-44 (John et al., 1991) and the TDA (Goldberg, 1992) also shortened the NEO-PI-R, and the latter was in turn shortened by Saucier (1994). In 2003 Gosling et al. introduced the first of two ten-item instruments based on the BFI-44 (Gosling et al., 2003; Rammstedt & John, 2007).

The Ten-Item Personality Inventory (TIPI; Gosling et al., 2003) can be completed in one minute. Each item is a pair of adjectives and there are two items per factor. The Ten-Item Big Five Inventory (BFI-10; Rammstedt & John, 2007) is a subset of the short phrases used in the BFI-44 and can also be completed in one minute. These short scales are reproduced in Table 2.4.

**Table 2.5** Comparison of ten-item personality instruments

| Gosling et al. (2003)[a] | Rammstedt and John (2007)[b] |
|---|---|
| Extraverted, enthusiastic | Is reserved |
| Critical, quarrelsome | Is generally trusting |
| Dependable, self-disciplined | Tends to be lazy |
| Anxious, easily upset | Is relaxed, handles stress well |
| Open to new experiences, complex | Has few artistic interests |
| Reserved, quiet | Is outgoing, sociable |
| Sympathetic, warm | Tends to find fault with others |
| Disorganized, careless | Does a thorough job |
| Calm, emotionally stable | Gets nervous easily |
| Conventional, uncreative | Has an active imagination |

[a]Items are prefaced with the phrase "I see myself as:"
[b]Items are prefaced with the phrase "I see myself as someone who…"

Both of the ten-item scales show respectable reliability and validity when compared against longer instruments, including the 240-item NEO-PI-R (Gosling et al., 2003; Rammstedt & John, 2007). However, in both cases the authors recommended the use of a longer assessment if time allows.

One of the constraints for this internship compatibility instrument was completion time. The entire assessment should require a minimal amount of time, and personality forms only part of the compatibility picture along with skills and expectations. However, the existence of these ten-item scales indicates that a reasonable personality measure can be attained in relatively few questions.

### 2.4.4 Summary of Personality

The five-factor model has been employed extensively in personality modelling and profiling. John et al. (2008) reported that nearly 2000 new FFM papers were published between the second edition of their chapter in 1999, and the third edition in 2008. There exist FFM assessment instruments that exhibit good reliability and validity, and that are attractive from an adaptation perspective (Saucier, 1994). The FFM has been used to measure personality similarity for a variety of purposes and in a variety of domains related to the education internship. These include perception of similarity (Wortman et al., 2014), intern-mentor relationships (Menges, 2015), team building (Kottke & Kimura, 2009), and job performance (Barrick & Mount, 1991). For these reasons, the five-factor model, and the BFI-44 in particular, has been chosen to assess personality in the proposed compatibility instrument.

## 2.5 Skills

The characterization "skills of a successful teacher" can encompass anything from classroom management (O'Neill & Stephenson, 2012) to communication (Izadinia, 2015a) to self-reflection (Cattley, 2007) to technological fluency (Stobaugh & Tassell, 2011). Unfortunately, there appears to be a lack of agreement on which personal

characteristics correspond to effective teachers, how the characteristics should be categorized, and even how they should be defined (Ornstein & Lasley, 2000).

This section will present an enumeration of skills summarized from intern assessment criteria defined by colleges of education. The reason for using these forms as a source is threefold. First, assessment is a part of the internship experience (Smith, 2010). Despite the desire for collaboration and teamwork between interns and mentors, the internship remains an assessed component of teacher education programs. Therefore, skills used for compatibility should mirror skills that will be assessed. Second, the internship is a learning experience, and is a source of valuable professional development for both interns and mentors (Ferrier-Kerr, 2009; Roland & Beckford, 2010). Therefore, skills used for compatibility should mirror skills identified as important by colleges of education.

The final reason for using intern assessment criteria addresses a broader goal for the proposed compatibility instrument. The five personality factors discussed in the previous section are clearly defined, generally agreed upon, mostly distinct from each other, measureable using well-validated instruments, and have been applied to various problem domains in numerous studies. No such unified body of research was identified within the education literature regarding skill development for teachers. Intern assessment forms provide some standardization in enumerations of skills for teachers due to their structure and purpose. While these forms likely have not undergone the same rigorous testing that marks the personality research, they provide a useful starting point for development of a skill inventory.

Internship assessment forms were accessed from the University of Saskatchewan (n.d.), the University of Alberta (n.d.), the University of British Columbia (2014), the University of Toronto (2015), McGill University (Martinet et al., 2001), the University of Arizona (2014), and Michigan State University (2015). From these sources I compiled a list of four relationship and seven applied skills for the compatibility instrument (Table 2.5). There was considerable agreement among these universities regarding skills for intern assessment, and saturation was reached while enumerating specific traits for each skill.

There is significant interaction and overlap between the skills. For example assessment, planning, and instruction are found grouped together separate from subject knowledge (Michigan State University, 2015; University of Alberta, n.d.; University of Toronto, 2015), grouped together with subject knowledge (University of British Columbia, 2014; University of Saskatchewan, n.d.), and separated into individual categories (Martinet et al., 2001; University of Arizona, 2014). In practice, assessments are planned and they are informed by instruction and subject knowledge, so the boundaries between these skills become somewhat ill defined. For descriptive purposes, they are split into individual skills in this chapter, and the interpretation panels informed their final arrangement and inclusion in the compatibility instrument.

**Table 2.6** Skills selected for inclusion in this study

| Applied Skills | Relationship Skills |
|---|---|
| Planning | Diversity and equity |
| Instruction | Reflection |
| Assessment | Communication |
| Content knowledge | Professionalism |
| Classroom management | |
| Meta-teaching activities | |
| Technology | |

Skills were measured using the same technique identified for personality attributes in section 2.4.3.3 (John et al., 1991). That is, short phrases were identified that describe behaviours associated with each skill. The initial list of these phrases was distilled from the internship assessment documents cited above. As with the skills themselves, the interpretation panels informed the inclusion and wording of the short phrases. Phrases extracted for each skill are provided in the sections below.

### 2.5.1 Relationship Skills

Relationship skills describe a more general set of teaching activities. On College of Education internship assessment forms, traits associated with these skills are often found spread across several categories. For example, diversity and equity are important considerations in planning and assessment (University of Toronto, 2015), instruction (Martinet et al., 2001; University of Toronto, 2015), classroom management (Michigan State University, 2015; University of Alberta, n.d.), and reflection (University of Arizona, 2014; University of Saskatchewan, n.d.). Due to the broad nature of these skills, descriptions of measureable behaviour (short phrases and adjectives) will frequently reference other skills.

#### 2.5.1.1 Diversity and Equity

Diversity and equity blend into most of the skill categories identified by colleges of education. This characteristic involves inclusive instructional strategies (University of Saskatchewan, n.d.), planning (University of Alberta, n.d.), assessment (University of Toronto, 2015), and curriculum (Martinet et al., 2001). It involves modeling caring and respectful behaviour (Michigan State University, 2015). It involves expecting, and encouraging, respect of differences in race, gender, religion, ability, culture, and

socioeconomic status (University of Toronto, 2015). It informs communication strategies and language (University of British Columbia, 2014). It is an aspect of professionalism and reflection (University of Arizona, 2014). It directs technology availability, use, familiarity, and competence (Martinet et al., 2001). On intern assessment forms, this skill is more commonly referenced within other skill descriptions than any other skill in this list. Descriptive traits relating to diversity and equity as derived from intern assessment forms are presented in Table 2.7.

When compared to its prevalence within intern assessments, the role of diversity and equity in intern-mentor relationships is discussed in the literature with far less frequency. A notable exception is Smith (2010), who characterized the intern and mentor as belonging to separate cultures. The intern belongs to the *theory* culture, while the mentor belongs to the *practice* culture. Building a successful relationship requires deliberately crossing a cultural boundary. Smith contended that individuals who successfully navigate that boundary benefit from "the creation of new knowledge and better understanding of teaching" (Smith, 2010, p. 37).

Other researchers have discussed situations in which interns and mentors worked through individual differences. Ferrier-Kerr (2009) noticed that within successful intern-mentor relationships there was an ability to recognize differences, and then to focus on, and emphasize, the benefits of the relationship without dwelling on the differences. Some mentors deal with individual differences by making a conscious effort not to unduly influence the intern's growth (Abell et al., 1995), which requires recognition of, and sensitivity to, the power and experience gap between the intern and mentor. Patrick (2013) took a more negative view of the power and experience gap. She decried the

apprenticeship model of mentoring, with individuals in the roles of expert (mentor) and novice (intern). This model emphasizes "the ways in which education and teacher education continue to reproduce educational and social inequities" (Patrick, 2013, p. 222).

**Table 2.7** Traits and behaviours describing diversity and equity

| I am a person who… | |
|---|---|
| Expects respect of race | Builds on multi-lingual resources |
| Expects respect of gender | Seeks multi-lingual resources |
| Expects respect of religion | Is sensitive to individual diversity |
| Expects respect of culture | Facilitates education for students with learning disabilities |
| Expects respect of abilities | Facilitates education for students with social maladjustments |
| Uses inclusive instructional strategies | Facilitates education for students with handicaps |
| Uses inclusive curriculum | Facilitates social integration for students with learning disabilities |
| Demonstrates a caring manner | Facilitates social integration for students with social maladjustments |
| Supports whole-student growth | Facilitates social integration for students with handicaps |
| Supports student self-worth | Consults resource people with regard to students |
| Understands diverse ethnic backgrounds | Proposes learning tasks for less able students |
| Understands diverse cultural backgrounds | Proposes challenges for less able students |
| Understands diverse linguistic backgrounds | Proposes classroom roles for less able students |
| Incorporates diverse ethnic backgrounds | Develops individualized education plans |
| Incorporates diverse cultural backgrounds | Implements individualized education plans |
| Incorporates diverse linguistic backgrounds | Understands my own teaching values |
| Identifies effects of socio-economic status | Provides appropriate attention to students |
| Ameliorates effects of socio-economic status | Provides appropriate support to students |
| Understands exceptionality | Avoids discrimination towards students |
| Understands inclusive education | Avoids discrimination towards parents |
| Promotes anti-oppressive education | Avoids discrimination towards colleagues |
| Promotes anti-racist education | Understands the background of moral |

| | |
|---|---|
| | conflicts |
| Understands educational inequalities | Supports English language learners |
| Addresses educational inequalities | Uses services to meet learning differences |
| Builds positive relationships | Uses services to meet learning needs |

#### 2.5.1.2 Reflection

Reflection generally relates to self-improvement. Intern assessment criteria for reflection include the ability to incorporate constructive criticism (University of British Columbia, 2014; University of Toronto, 2015), to self-direct professional growth (University of Saskatchewan, n.d.), to practice goal setting (University of Alberta, n.d.), to develop and communicate a professional identity (Michigan State University, 2015), and to make connections between theory and practice (University of British Columbia, 2014). After diversity and equity, reflection is the most commonly referenced skill among intern assessment forms. Traits for assessing reflective practices are presented in Table 2.8.

Reflection is frequently addressed in internship research. It is an integral component in mentoring models (Abell et al., 1995; He, 2009). Hudson (2013) reported that reflection performed a critical role within support provided to interns. Mentors provided their own reflections on the practice of their interns. Interestingly, in the same study interns did not see this practice as an expected responsibility for mentors (Hudson, 2013). Mentors tend to become more self-reflective during an internship, and they use that self-reflection to improve their own practice (Hobson et al., 2009). These researchers accentuate the importance of reflective practices for mentors as much as for interns.

**Table 2.8** Traits and behaviours describing reflection

| I am a person who… | |
|---|---|
| Reflects to guide professional development | Involves peers in research |
| Has developed a professional identity | Participates in ongoing learning opportunities |
| Can communicate my professional identity | Aligns professional development with needs of teachers |
| Actively seeks professional growth | Aligns professional development with needs of students |
| Actively seeks improvement | Aligns professional development with needs of the school |
| Has an established philosophy of education | Reflects on personal biases to understand cultural variations |
| Acts on advice | Reflects on personal biases to understand linguistic variations |
| Employs a question-reflection-action cycle | Reflects on personal biases to understand ethnic variations |
| Links theory and practice | Reflects on personal biases to understand gender variations |
| Reflects on my own competencies | Reflects on personal biases to understand learning variations |
| Reflects collaboratively with colleagues | Can justify teaching decisions |
| Adjusts practices based on reflection | |

Professional identity is strongly informed by reflective practices. Hamachek (1999) stated, "Consciously we teach what we know; unconsciously we teach who we are" (p. 209). Reflection can refine "who we are" so that a teacher's identity in the classroom mirrors the goals of the profession (Hong, 2010; Izadinia, 2015a; Trent, 2013). Additionally, reflective writing can be used to identify the teacher's role outside the classroom (Cattley, 2007).

#### 2.5.1.3 Communication

Communication refers to all written and oral interactions with students, parents, and colleagues. McGill University in particular, places great value on correct grammar, precise vocabulary, and clarity of expression (Martinet et al., 2001). Communication is a

critical component of instruction and classroom management (University of Toronto, 2015), which includes practicing effective questioning techniques, and adjusting vocabulary and language for a given audience. The assessment form from the University of British Columbia goes further than vocabulary, and suggests that interns should also know when to adjust tone and formality in their language (University of British Columbia, 2014). Traits for assessment of communication skills are presented in Table 2.9.

**Table 2.9** Traits and behaviours describing communication

| I am a person who… | |
|---|---|
| Uses appropriate learning language | Understands gestural communication modes |
| Uses effective questioning | Employs linguistic communication modes |
| Is clear | Employs audio-visual communication modes |
| Is concise | Employs gestural communication modes |
| Can respond effectively to questions | Uses appropriate language with students |
| Can respond effectively to students | Uses appropriate language with parents |
| Uses subject specific vocabulary | Uses appropriate language with peers |
| Exhibits clear instruction | Uses proper grammar in written communication |
| Exhibits logical instruction | Practices good debating skills |
| Exhibits engaging instruction | Practices respectful debating skills |
| Communicates with guardians | Uses precise vocabulary |
| Adjusts tone for audience | Uses correct syntax |
| Adjusts vocabulary for audience | Corrects mistakes spoken by students |
| Adjusts formality for audience | Corrects mistakes written by students |
| Understands linguistic communication modes | Improves own oral language skills |
| Understands audio-visual communication modes | Improves own written language skills |

The importance of communication skills is a common theme in internship research (for example, Bradbury & Koballa, 2008; He, 2009; Roland & Beckford, 2010). However, there is a distinction between communication as a method of verbally or otherwise expressing oneself as discussed above, and communication as an enabler of

relationship building. Building personal and professional relationships is important for understanding one's role in the internship (Allen, 2011). The ability to instigate and maintain relationships with key educational stakeholders is also recognized as a valuable skill by universities (Michigan State University, 2015; University of Toronto, 2015). Ease of communication was found to be an identifier of good and bad intern-mentor relationships (Izadinia, 2015a). Lawley et al. (2014) suggested that pre-service education programs should take a more active role in teaching effective communication skills.

Feedback has also been identified as a key of successful intern-mentor relationships. Andrew et al. (1996) found that resistance to feedback was among the most common characteristics listed for poor interns. Bradbury and Koballa (2008) highlighted the different perspectives of mentors and interns with regard to feedback. Interns expect useful and timely feedback from mentors, while mentors may tone down feedback to preserve the relationship with their interns. Cattley (2007), Eller, Lev, and Feurer (2014), Izadinia (2015b), and others also recognized this dual nature of feedback. It seems likely that the conflict surrounding feedback is an indicator of the dual role mentors assume as both assessor and supporter of interns (He, 2009; Patrick, 2013; Smith, 2010).

#### 2.5.1.4 Professionalism

Behaving in a professional manner is a common theme throughout intern assessment forms. The specific behaviours used for assessment can be split very generally into two groups that I will refer to as outward facing and inward facing exhibitions of professionalism. Outward facing behaviours are the most common assessment items and include punctuality (University of Toronto, 2015), initiative

(University of Arizona, 2014), collaboration (University of British Columbia, 2014), and collegiality (University of Alberta, n.d.). The University of Arizona assessment form refers to this set of behaviours as maintaining a professional demeanour (University of Arizona, 2014).

**Table 2.10** Traits and behaviours describing professionalism

| I am a person who… | |
|---|---|
| Is dependable | Responds positively to constructive criticism |
| Is flexible | Incorporates constructive criticism into practice |
| Takes initiative | Engages in reflective practice |
| Is punctual | Interacts professionally with colleagues |
| Engages in inquiry | Interacts professionally with peers |
| Engages in collaboration | Interacts professionally with students |
| Bases relationships on respect | Interacts professionally with parents |
| Bases relationships on trust | Provides extra learning assistance |
| Is enthusiastic | Understands educational legislation |
| Has a positive attitude | Contributes individually to school quality |
| Assumes a teacher role | Contributes collegially to school quality |
| Is observant | Practices cooperative conflict resolution |
| Is collegial | Has a commitment to professional standards |
| Develops team projects | Has a commitment to ethical standards |
| Organizes team projects | Builds relationships with supervisors |
| Helps to build consensus | Builds relationships with peers |
| Helps to build a teaching team | Cooperates to meet educational objectives |
| Respects confidentiality | Uses sound judgement when accessing the legal framework |
| Demonstrates a professional demeanour | Demonstrates integrity regarding professional ethics |
| Shares accountability | Maintains a professional appearance |
| Contributes to the skill of others | Uses professional language |
| Contributes to the knowledge of others | Collaborates to advance professional practice |
| Advocates for learners | Advocates for the school |
| Advocates for the community | Advocates for the profession |

Inward facing behaviours parallel reflection (Section 2.5.1.2) in many ways. These include commitment, self-improvement, and taking pride in one's own progress as

a teacher (Michigan State University, 2015; University of Alberta, n.d.; University of Arizona, 2014; University of British Columbia, 2014; University of Toronto, 2015). This characterization of professionalism is similar to the descriptors for conscientiousness listed in Table 2.2, which implies that individuals with high conscientiousness scores are likely to also exhibit high levels of professionalism. Traits used to assess professionalism are presented in Table 2.10.

Within internship research, professionalism is often employed as a general term indicating an individual's overall demeanour and interaction with others (Hetherington, 2014; Hong, 2010; Hudson, 2013; Murray, 2013; Tollefson & Kleinsasser, 1992). Both Hong (2010) and Hetherington (2014) described difficulties that interns face when entering a school environment in an authoritative role. They emphasized professionalism as a tool for successfully navigating relationships within that new role.

### 2.5.2 Applied Skills

Applied skills refer to behaviours and abilities that are relatively easy to distinguish from one another. For example, subject knowledge informs planning, which in turn informs instruction. Techniques within each skill are likewise mostly self-contained. Classroom management techniques (routine, expectations, and inclusion) can be distinguished from assessment techniques (summative and formative). Despite the inherent distinction between these skills, there will be some overlap of traits and behaviours.

As an example consider the trait *I am a person who provides clear explanation*. It could be seen as a component of *instruction*, *assessment*, *classroom management*, or *content knowledge*. Additionally, it could contribute to relationship skills such as

*communication* or *reflection*. This overlapping categorization will be noted where applicable.

As explained previously, this category corresponds most closely with the assessed component of the internship. As such, applied skill descriptions will generally defer to university assessment criteria rather than to academic literature.

#### 2.5.2.1 Planning

Planning involves the design of lesson plans, unit plans, assessments, cross-discipline activities, classroom organization and management, and more (Martinet et al., 2001; University of Alberta, n.d.; University of Arizona, 2014; University of British Columbia, 2014; University of Saskatchewan, n.d.; University of Toronto, 2015). It can be short-, medium-, or long-term in scope (University of Alberta, n.d.; University of Arizona, 2014). Technology is incorporated for planned inclusion in a lesson or assessment, as well as for generation of artefacts used in class. Horowitz et al. (2005) stated: "tasks that are developmentally inappropriate not only breed academic failure for students, they also undermine motivation and encourage disruptive behaviour" (p. 89).

Diversity and equity play a key role in planning to ensure that lessons and assessments supply students with necessary accommodations and exceptionalities (University of Toronto, 2015). Additionally, a focus on diversity and equity while planning can assist with modelling the cultural, ethnic, gender, and socioeconomic diversity found in classrooms (Martinet et al., 2001). Traits used to assess planning skills are presented in Table 2.11.

Planning is often the battleground in the integration of theory and practice (McDonald et al., 2014; Viciana & Mayorga-Vega, 2013). It represents a boundary

where university exercises intersect with real-world experiences. Hascher, Cocard, and Moser (2004) and Hetherington (2014) described studies where pre-service interns experienced an improvement in effective planning following their internship. In a study conducted by Murray (2013), mentors worked closely with interns to improve lesson plans before they were put into practice in the classroom.

**Table 2.11** Traits and behaviours describing planning

| I am a person who… | |
|---|---|
| Plans lessons daily | Incorporates First Nations & Métis content |
| Creates detailed lesson plans | Incorporates First Nations & Métis perspectives |
| Prepares lessons ahead of time | Plans engaging lessons |
| Uses a range of planning techniques | Expresses aims specified in the curriculum |
| Plans fair lessons | Expresses competencies specified in the curriculum |
| Plans sensitive lessons | Expresses content specified in the curriculum |
| Plans accommodations | Plans teaching sequences |
| Accounts for context in lessons | Plans evaluation sequences |
| Follows curriculum guidelines | Differentiates lessons based on gender |
| Plans differentiated learning activities | Differentiates lessons based on ethnicity |
| Plans for the short term | Differentiates lessons based on culture |
| Plans for the medium term | Differentiates lessons based on socioeconomics |
| Plans for the long term | Anticipates obstacles to learning |
| Integrates supplementary resources | Plans learning that encourages different competencies |
| Adjusts curriculum to individuals | Creates developmentally appropriate instruction |
| Plans engaging lessons | Designs instruction to address particular strengths |
| Plans authentic lessons | Designs instruction to address particular needs |
| Incorporates technology | Sequences learning experiences effectively |
| Sets appropriate learning goals | Aligns learning experiences with curriculum goals |
| Hesitates to take risks | Plans multiple ways for students to demonstrate knowledge |
| Doesn't like to make mistakes | Plans multiple ways for students to demonstrate skills |
| Plans logically organized units | Collaborates with professionals to design effective learning experiences |

| | |
|---|---|
| Plans logically organized lessons | Adjusts plans to meet short range goals |
| Plans Engaging units | Adjusts plans to meet long range goals |

#### 2.5.2.2 Instruction

Instruction refers to the delivery of lessons and activities. Communication, diversity and equity, and professionalism play a big role in instructional behaviours (Martinet et al., 2001; University of Arizona, 2014). Differentiated lessons are delivered with differentiated instructional strategies (University of British Columbia, 2014). Instruction is often thought of as the act of "teaching", and is characterized as being on the opposite side of the theory-practice divide from planning (He, 2009; Roland & Beckford, 2010). Technology plays an important role for instruction with regard to teacher and student uses of specific hardware or software (Martinet et al., 2001). Additionally, technology had been employed to create video recordings of lessons to improve the aptitude of interns in the classroom (Santagata, Zannoni, & Stigler, 2007; Seidel, Blomberg, & Renkl, 2013). Traits used to assess instructional skills are presented in Table 2.12.

Instruction is more than just implementation of a lesson plan. Directing student learning certainly involves content delivery; but it also includes questioning, guiding students toward self-learning, responding to student questions, correcting student misconceptions and misunderstandings, and so on (Michigan State University, 2015; University of Alberta, n.d.; University of Saskatchewan, n.d.; University of Toronto, 2015). Communication is critical for presenting and framing subject knowledge in an accessible and engaging way for a given audience. *Engaging* is a term that appears

frequently in the intern assessment forms cited here, and student engagement is an indicator of student learning (van Uden, Ritzen, & Pieters, 2014).

**Table 2.12** Traits and behaviours describing instruction

| I am a person who… | |
|---|---|
| Builds on students' prior experience | Uses a range of instruction techniques |
| Uses instructional strategies | Promotes multiple ways of understanding |
| Uses instructional groupings | Incorporates technology in the classroom |
| Implements accommodations | Identifies student spiritual strengths |
| Uses fair instruction techniques | Addresses individual exceptionalities |
| Addresses individual needs | Guides students to select information |
| Addresses individual learning styles | Guides students to interpret information |
| Addresses individual abilities | Guides students to understand information |
| Uses pedagogically sound teaching strategies | Modifies instruction based on developmental needs |
| Accounts for context | Accessibly communicates curriculum |
| Integrates supplementary resources | Enhances student spiritual strengths |
| Ensures participation of all students | Promotes challenging of assumptions |
| Ensures success of all students | Develops student communication skills |
| Identifies student academic strengths | Supports diverse social perspectives |
| Identifies student social strengths | Supports diverse cultural perspectives |
| Provides opportunities for learners to apply information | Supports student literacy across content areas |
| Identifies student physical strengths | Adapts to a changing environment |
| Monitors student learning to adapt instruction | Engages students in developing learning experiences |
| Enhances student social strengths | Enhances student academic strengths |
| Delivers instruction to address particular strengths | Varies the teaching role to address the needs of learners |
| Stimulates discussion to probe understanding | Provides multiple representations of concepts |
| Uses constructivist techniques | Engages learners in metacognition |
| Provides clear communication of curriculum | Provides opportunities for learners to access information |
| Delivers instruction to address particular needs | Provides opportunities for learners to interpret information |
| Expands student communication through speaking | Provides opportunities for learners to evaluate information |
| Uses suitable wait time | Emphasizes language development |
| Expands student communication through reading | Expands student communication through listening |
| Uses suitable eye contact | Uses suitable gestures |
| Expands student communication through technology | Expands student communication through writing |

| | |
|---|---|
| Provides necessary resources | Enables meaningful problem solving |
| Stimulates discussion to probe thinking | Enhances student physical strengths |
| Encourages teamwork | Asks relevant questions |
| Promotes questioning | Provides clear directions and explanations |

#### 2.5.2.3 Assessment

Assessment includes both formal summative assessments, as well as informal formative assessments. It informs planning and instruction, and is heavily influenced by written communication skills (Martinet et al., 2001; University of Arizona, 2014). Assessment is an ongoing process that should include the student. Timely feedback and formative assessment intersect to encourage students to conduct critical self-assessments with the goal of fostering lifelong learners (Michigan State University, 2015; University of Alberta, n.d.; University of Saskatchewan, n.d.; University of Toronto, 2015). Traits that contribute to assessment are presented in Table 2.13.

**Table 2.13** Traits and behaviours describing assessment

| I am a person who… | |
|---|---|
| Writes effective assessments | Provides timely feedback |
| Uses a range of assessment techniques | Accounts for context in assessments |
| Implements accommodations in assessments | Designs assessments to support learning goals |
| Uses sensitive assessment techniques | Designs assessments to motivate students |
| Uses appropriate assessment | Uses fair techniques |
| Uses appropriate evaluation | Provides effective feedback |
| Practices an effective reporting strategy | Gathers information about student learning |
| Designs evaluation tools | Continually assesses student learning |
| Communicates expected outcomes to students | Communicates expected outcomes to parents |
| Provides feedback to parents | Designs valid formative assessments |
| Guides students to assess their own learning | Guides students to assess their own thinking |
| Uses data to inform planning | Designs valid summative assessments |
| Prepares learners for multiple assessment formats | Uses formative data to guide instruction |
| Uses data to inform practice | Uses summative data to guide instruction |

Technology and record keeping are important components of assessment skills, both to summarize results, and to compare with previous results to create a picture of the learning path for individual students. Tracking individual student progress is a key element in the big data movement (Murnane, Sharkey, & Boudett, 2005; Parke, 2012). Technology has also been used as a delivery mechanism for assessments (Wang, 2011).

#### 2.5.2.4 Content Knowledge

Content knowledge can be exhibited through subject-specific vocabulary and terminology (University of Arizona, 2014). It is sometimes referred to as curriculum knowledge, and can be framed as an understanding of the intersection of a subject domain and the curriculum for a specific course or unit or lesson (University of Alberta, n.d.; University of Toronto, 2015). This skill could be characterized as more general than planning, instruction, and assessment. Content knowledge is often incorporated into the assessment of those skills since it informs decisions and actions within them (Martinet et al., 2001; Michigan State University, 2015; University of Arizona, 2014). However, among the intern assessment forms reviewed, there is enough focus on content knowledge independent of other skills to give it a distinct place within this list. Traits used to measure content knowledge are presented in Table 2.14.

The trait *I am a person who can recognize student misconceptions* came from the University of Arizona intern assessment form (University of Arizona, 2014), and likely grows out of a body of research around Pedagogical Content Knowledge (PCK). The definition of PCK has shifted slightly over the years, but it is generally considered to be the intersection of pure subject knowledge and a pedagogical understanding of how learners interact with that subject (Depaepe, Verschaffel, & Kelchtermans, 2013;

Shulman, 1986). Depaepe et al. (2013) conducted a comprehensive literature review and found that a deeper understanding of pedagogical content knowledge contributed to improved student achievement. This is contrary to the findings of Grossman, Schoenfeld, and Lee (2005), who indicated that the link between subject knowledge and student achievement is largely thought to be significant but is often not shown to be significant.

**Table 2.14** Traits and behaviours describing content knowledge

| I am a person who… | |
|---|---|
| Has knowledge of subject content | Has knowledge of curriculum expectations |
| Situates the subject's benchmarks | Situates the subject's concepts |
| Situates the subject's postulates | Situates the subject's methods |
| Embraces different viewpoints | Establishes cultural links to the subject |
| Can use multiple representations | Adopts a critical approach to the subject |
| Can use multiple explanations | Uses subject specific methods of inquiry |
| Questions content from multiple perspectives | Understands content from multiple perspectives |
| Uses subject specific standards of evidence | Analyzes content from multiple perspectives |
| Can recognize student misconceptions | Links content to existing knowledge |
| Can correct student misconceptions | Uses subject specific academic language |
| Evaluates curriculum resources for accuracy | Evaluates curriculum resources for comprehensiveness |
| Evaluates curriculum resources for appropriateness | Modifies curriculum resources for comprehensiveness |
| Applies content to real world problems | Modifies curriculum resources for accuracy |
| Applies content to interdisciplinary problems | Modifies curriculum resources for appropriateness |

#### 2.5.2.5 Classroom Management

Classroom management refers to more than just conflict resolution and behaviour management. It also includes establishing and sustaining the physical and emotional aspects of the classroom (Jackson, Simoncini, & Davidson, 2013). Physical classroom organization involves the establishment and enforcement of classroom routines, rules, and expectations (University of Alberta, n.d.; University of Toronto, 2015). Emotional classroom organization includes providing a safe and supportive classroom environment

that promotes student learning (for example, Martinet et al., 2001; University of British Columbia, 2014; University of Saskatchewan, n.d.). Some institutions include establishment of rapport with students in the assessment items for classroom management (University of Alberta, n.d.; University of British Columbia, 2014; University of Toronto, 2015). Traits used to assess classroom management skills are presented in Table 2.15.

**Table 2.15** Traits and behaviours describing classroom management

| I am a person who… | |
|---|---|
| Implements a classroom routine | Maintains a participatory environment |
| Promotes respect | Provides an environment that supports learning |
| Promotes responsibility | Provides an environment that supports learners |
| Provides a secure social environment | Provides a secure cultural environment |
| Adapts to a changing environment | Organizes the physical environment |
| Provides a secure psychological environment | Provides an environment that supports responsibility |
| Communicates appropriate school behaviour | Establishes appropriate classroom procedures |
| Reinforces classroom expectations | Maintains an engaged environment |
| Establishes safe classroom procedures | Contributes to the classroom community |
| Develops a classroom routine | Establishes positive rapport with students |
| Communicates appropriate social behaviour | Involves students in setting classroom standards |
| Enforces appropriate school behaviour | Enforces appropriate social behaviour |
| Develops strategies to deal with behaviour issues | Develops strategies to prevent behaviour issues |
| Evaluates the learning environment with students | Maintains a positive classroom environment |
| Promotes shared values | Maintains positive rapport with students |
| Allocates classroom resources | Provides a secure physical environment |
| Manages the learning environment | Organizes the learning environment |
| Coordinates classroom resources | Adjusts the learning environment with students |

Interns entering an internship tend to be intimidated by classroom management (Jackson et al., 2013; O'Neill & Stephenson, 2012). This is, in part, due to a tendency to expect classroom management to be more about managing aberrant behaviours than

about providing a positive environment (Jackson et al., 2013). O'Neill et al. (2012) conducted a study that showed interns who completed a course on practical techniques for classroom management improved to feeling "somewhat prepared" from "not at all prepared" (p. 1139). Traits measuring this skill will be drawn across the whole range of the classroom management spectrum.

**Table 2.16** Traits and behaviours describing meta-teaching activities

| I am a person who… | |
|---|---|
| Works to improve social conditions | Situates practice within political issues |
| Works to improve environmental conditions | Connects across family structure differences |
| Critically examines current issues | Situates practice within local issues |
| Situates practice within global issues | Situates practice within cultural issues |
| Connects with local communities | Connects with national communities |
| Connects with global communities | Connects across ethnic differences |
| Connects across ability differences | Connects across class differences |
| Connects across race differences | Encourages parent participation |
| Connects across gender differences | Coordinates with school partners |
| Contributes to school community | Supports the mission of the school |
| Collaborates in developing educational services | Collaborates in implementing educational services |
| Shows enthusiasm beyond the classroom | Supports students involved with administrative structures |
| Supports the vision of the school | Shows initiative beyond the classroom |
| Shows interest beyond the classroom | Participates in extra-curricular activities |
| Works with school professionals to plan learning | Works with school professionals to facilitate learning |

#### 2.5.2.6 Meta-teaching activities

Meta-teaching activities refer to a loose grouping of teacher behaviours identified by colleges of education. This category is not an explicit part of any reviewed intern assessment forms. Instead, I chose to group together all behaviours and activities that fall "outside" the classroom. This skill can refer to teacher-centred activities such as participation in extra-curricular teams and clubs (University of Toronto, 2015), collaboration with colleagues (University of Arizona, 2014), or involvement in teaching

teams (Martinet et al., 2001). It can also refer to student-centred activities, such as situating curriculum within the context of the school or the community (University of Saskatchewan, n.d.). Meta-teaching activities involves supporting the goals of the school and an acknowledgement of learning within a larger scope (Michigan State University, 2015; University of Saskatchewan, n.d.). Traits used to assess this skill are presented in Table 2.16.

#### 2.5.2.7 Technology

Technology is pervasive within current educational practice. It is used by students and by teachers, it is used for planning and incorporated into planning, it is used for record keeping and to summarize records, and it is used extensively for communication (Stobaugh & Tassell, 2011). Additionally, the technology skill encompasses more than just the use of technology. Teachers guide students towards critical, responsible, and safe content consumption, content creation, information gathering, and social media use (Martinet et al., 2001; University of Arizona, 2014).

Strong technological skills involve understanding the hardware and software that is in use by the teacher and the students; the ability to seek out and assess new appropriate hardware and software resources; the ability to incorporate technology into lessons and assessments in a meaningful, natural way; and the ability to instruct students in the safe and responsible use of technology (Michigan State University, 2015; Stobaugh & Tassell, 2011; Teo & Noyes, 2011; Tondeur et al., 2012). Technology has been used by interns for peer-support during the internship though the construction of blogs (Chu, Chan, & Tiwari, 2012) and a wiki (Scherff & Singer, 2012).

Some aspect of technology is present in every other practical and general skill listed in this chapter. Additionally, every institution includes assessment items referencing technology. However, only McGill University specified a distinct technological category separate from the other skills listed here (Martinet et al., 2001). Therefore, trait descriptors for technology were partially informed by Stobaugh and Tassell (2011). Traits used to assess technology are presented in table 2.17.

**Table 2.17** Traits and behaviours describing technology

| I am a person who… | |
|---|---|
| Understands the benefits of technology resources | Understands the limitations of technology resources |
| Understands the social issues of technology resources | Communicates using various multimedia resources |
| Assesses potential technology resources | Uses technology to support the curriculum |
| Uses technology to interpret problems | Uses technology to search for problems |
| Builds networks to facilitate information sharing | Uses technology to communicate information |
| Uses technology to solve problems | Helps students understand technology |
| Builds networks to promote professional development | Helps students become familiar with technology |
| Helps students exercise critical judgement with technology | Can evaluate technology for comprehensiveness |
| Collaborates using technology | Uses technology to meet learning needs |
| Uses technology to meet learning differences | Can evaluate technology for appropriateness |
| Can evaluate technology for accuracy | Uses technology to support assessment |
| Uses technology to inform planning | Uses technology to inform practice |
| Advocates safe use of technology | Advocates safe use of digital information |
| Advocates legal use of technology | Advocates legal use of digital information |
| Models ethical use of digital information | Advocates ethical use of digital information |
| Advocates ethical use of technology | Models safe use of digital information |
| Models legal use of digital information | Models ethical use of technology |
| Models safe use of technology | Models legal use of technology |
| Teaches safe use of digital information | Teaches legal use of digital information |
| Teaches safe use of technology | Teaches ethical use of digital information |
| Teaches legal use of technology | Teaches ethical use of technology |
| Maintains appropriate records | Uses data to document learning |

A secondary application of technology is record keeping. This is particularly prominent in the United States, where longitudinal student data is used for program and teacher improvement (Coburn & Talbert, 2006; Murnane et al., 2005; Supovitz, Foley, & Mishook, 2012). Assessment behaviours corresponding to record keeping were identified at four of the institutions reviewed (Michigan State University, 2015; University of Alberta, n.d.; University of Arizona, 2014; University of British Columbia, 2014).

### 2.5.3 Summary of Skills

The skills described in this section have been structured in two ways to mirror the organization found in the five-factor model discussed in section 2.4. First, many of the skills have recognizable facets. Assessment for example, incorporates trait descriptors pertaining to several facets including feedback, formative models, summative models, and accommodations. Second, trait descriptors have been worded to follow the pattern of the BFI-44 (John et al., 1991), which involves a general lead in of "I am a person who…", followed by several short phrases. This wording is a departure from the way that assessment items are expressed on the intern assessment forms.

An assessment item on the Michigan State University form reads: "Participate constructively in the school community, modeling the best of human qualities including honesty, respect, & fairness, and adapting appearance, demeanor, and communication to each situation" (Michigan State University, 2015). This phrasing is typical of the intern assessment forms reviewed here, but it is problematic for inclusion in a quantitative survey. Instead, this statement can be split into several short phrases to fit the pattern of the BFI-44:

- Contributes to the school community;

- Exhibits honesty;
- Exhibits respect;
- Exhibits fairness;
- Maintains a professional appearance;
- Maintains a professional demeanour; and
- Adapts communication for specific situations.

There are relatively low correlations between the factors in the FFM (John et al., 2008). This level of differentiation is not likely to exist for the skills described here. As discussed throughout this section there is considerable overlap between the skills. For example, professionalism includes a commitment to, and concern for, student achievement (Michigan State University, 2015). However, Tollefson and Kleinsasser (1992) cautioned that concern without rapport hampers an intern's success. Rapport is an element of both communication and classroom management. This reasoning agrees with other research suggesting that teaching requires multiple skills and competencies (Ferrier-Kerr, 2009; Harrison et al., 2006; Hong, 2010).

## 2.6 Expectations

Examination of intern-mentor relationships often uncovers the importance of expectations regarding the role of the intern and the mentor, as well as the goals of the internship (Bradbury & Koballa, 2008; Ferrier-Kerr, 2009; Hastings, 2010; He, 2009; Patrick, 2013; Trent, 2013). These expectations represent a set of factors distinct from personality and skills. Expectations also contribute to an understanding of the ways that skills and personality influence the intern-mentor relationship. Misalignment of expected skill levels can contribute to stressful internship experiences for both intern and mentor

(Smith, 2010). Within personality research there is evidence that *expectations of similarity* play a larger role in *experienced similarity* than *actual similarity* does (Wortman et al., 2014).

Wortman et al. (2014) conducted a large study into perceived versus actual personality similarity calculated using the five-factor model. They found that when a perceiver believed himself to be similar to a target, the perceiver experienced similarity with the target regardless of any actual measured similarity of personalities. That is, the perceiver's expectations defined his experiential reality.

The role between expectations and reality is slightly different for skills. Rather than simply experiencing one's expectations, conflict occurs in intern-mentor relationships when the experienced skill level differs from the expected skill level. This mismatch can result in contested and unproductive internship experiences (Andrew et al., 1996; Smith, 2010; Stobaugh & Tassell, 2011).

Expectations also play a role within intern-mentor relationships that is distinct from the other categories in the conceptual framework. This contribution to compatibility lies in the definition of the roles for the intern and mentor, and the goals of the internship. For example, mentors may take on the role of supporter, encourager, role model, or assessor (Ferrier-Kerr, 2009). Each party in the relationship will assume multiple roles, although understanding the importance placed on each role is a critical component in successful internships (Ferrier-Kerr, 2009; Patrick, 2013). A common source for mentor conflict is in balancing the dual role of supporter and assessor (Cattley, 2007; Hudson, 2013; Patrick, 2013; Smith, 2010). Table 2.18 contains a list of mentor and intern roles distilled from the findings of Bradbury and Koballa (2008), Ferrier-Kerr

(2009), Roland and Beckford (2010), Eller et al. (2014), Izadinia (2015b), Butler and Cuenca (2012), Cohen et al. (2013), and Abell et al. (1995).

**Table 2.18** Traits describing intern and mentor roles

| The role of the mentor is… | The role of the intern is… |
|---|---|
| Leader | Apprentice |
| Advisor | Collaborator |
| Friend | Partner |
| Supporter | Source of knowledge |
| Guide | Observer |
| Collaborator | To provide feedback |
| To advocate | To be flexible |
| To counsel | To be loyal |
| To encourage | To provide support |
| To assess | To provide respect |
| To evaluate | Friend |
| Coach | To defer |
| Facilitator | Willingness to learn |
| Supervisor | |
| Professional support | |
| Personal support | |
| To provide feedback | |
| Instructional coach | |
| Socializing agent | |
| Parent figure | |
| Trouble shooter | |
| Scaffolder | |

**Table 2.19** Traits describing goals of the internship

| The goal of the internship is… |
|---|
| Apprenticeship |
| Teacher preparation |
| To promote professional abilities |
| Knowledge development |
| School environment familiarity |
| Cognitive development |
| Emotional development |
| Skill development |
| Professional socialization |
| Pedagogical development |

The perceived goal of the internship defines the focus for growth that the intern and mentor will have. If the goal is a collaborative learning experience, then identity and role within the internship will be shaped by that goal (Trent, 2013). If the goal is an apprenticeship, then an inherent power imbalance becomes central to the intern-mentor relationship (Patrick, 2013). Table 2.19 contains a list of internship goals distilled from the findings of Bradbury and Koballa (2008), Cohen et al. (2013), He (2009), Ferrier-Kerr (2009), and Trent (2013).

## 2.7 Theoretical Framework

In general, there is considerable crossover between the compatibility categories. This is true between applied skills and relationship skills, between relationship skills and personality attributes, and between applied skills and personality attributes. For example, communication plays an important role in the applied skills *classroom management* (University of British Columbia, 2014), *instruction* (University of Arizona, 2014), and *technology* (Martinet et al., 2001). Additionally, communication is a critical component in building and maintaining professional relationships (Eller et al., 2014; Izadinia, 2015b), which is an aspect of the relationship skill *professionalism* (University of British Columbia, 2014).

Similarly, empathy contributes to the ability to provide relationship support (Abell et al., 1995), a component of the relationship skill *diversity and equity* (University of Toronto, 2015). It also contributes to the Big Five personality factor *agreeableness* (John et al., 1991). The personality factor *conscientiousness* is an indicator of leadership skills and attention to detail (John et al., 2008). These are also useful behaviours in the

applied skills *classroom management* (University of Alberta, n.d.) and *planning* (University of Toronto, 2015).

Expectations overlay and intersect with all the other categories, in addition to contributing three distinct factors. The intersection of the four categories is shown in the theoretical framework (Figure 2.2). Within the framework, three key intersections can be defined as important contributors to the inter-mentor relationship (Figure 2.3). These are *initial compatibility*, *ongoing compatibility*, and *skill development*. These intersections will be useful for defining boundaries between the categories in the compatibility instrument.

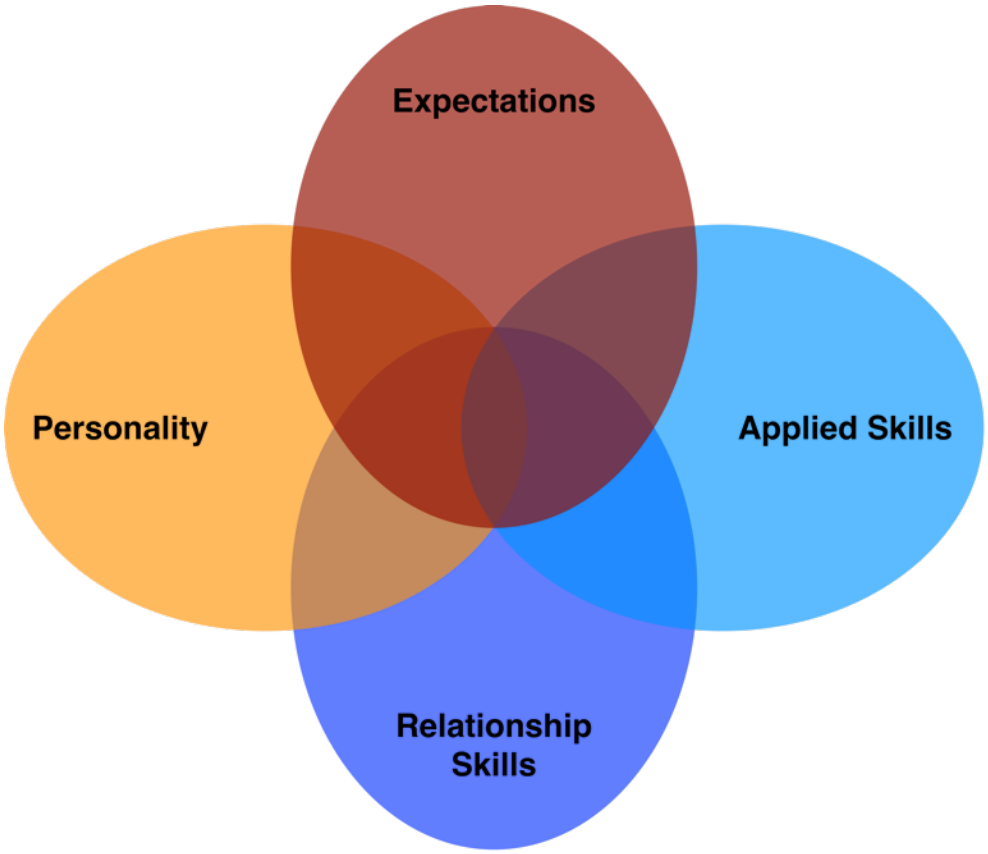


**Figure 2.2** Theoretical framework

The intersections shown in Figure 2.3 represent not just the presence of the four categories, but also the approximate proportion of those categories within the

intersection. For example, the intersection of *initial compatibility* (Figure 2.3a) is dominated by *personality* and *expectations*. As this intersection represents the first few days of the internship, there is little opportunity for display or evaluation of *applied skills*. Consequently, *applied skills* occupies a much smaller proportion of the intersection. Similar logic was applied to represent the importance of *relationship skills* and *applied skills*, and the minimal impact of *personality*, for the intersection of *skill development* (Figure 2.3c), and to the equal share of all four categories in the intersection of *ongoing compatibility* (Figure 2.3b). While this discussion is purely theoretical, it seems reasonable to assume there is proportionality of the categories within the intersections, and that the proportionality is represented appropriately in Figure 2.3. However, defining the exact proportions for each intersection is beyond the scope of this study, as is the definition of other intersections within the framework.

The first key intersection represents initial compatibility and is characterized primarily by the intersection of personality and expectations (Figure 2.3a). This intersection describes the initial contact between intern and mentor, and the first days of the internship. Internship relationships almost universally result in conflict at some point (Hastings, 2004; Patrick, 2013). Long-term personality compatibility can be established in a very short time frame through *thin-slice judgements* (Houser et al., 2007), and may form a foundation to weather early conflict (Hobson et al., 2009). Ferrier-Kerr (2009) reported that interns connected more strongly with mentors who took the time to get "to know 'things' about one another" (p. 792). Moreover, expectations of similarity can be more important than measured similarity in predictions of compatibility (Wortman et al.,

2014), particularly with regard to initial attraction (Houser et al., 2007; Tidwell, Eastwick, & Finkel, 2012).

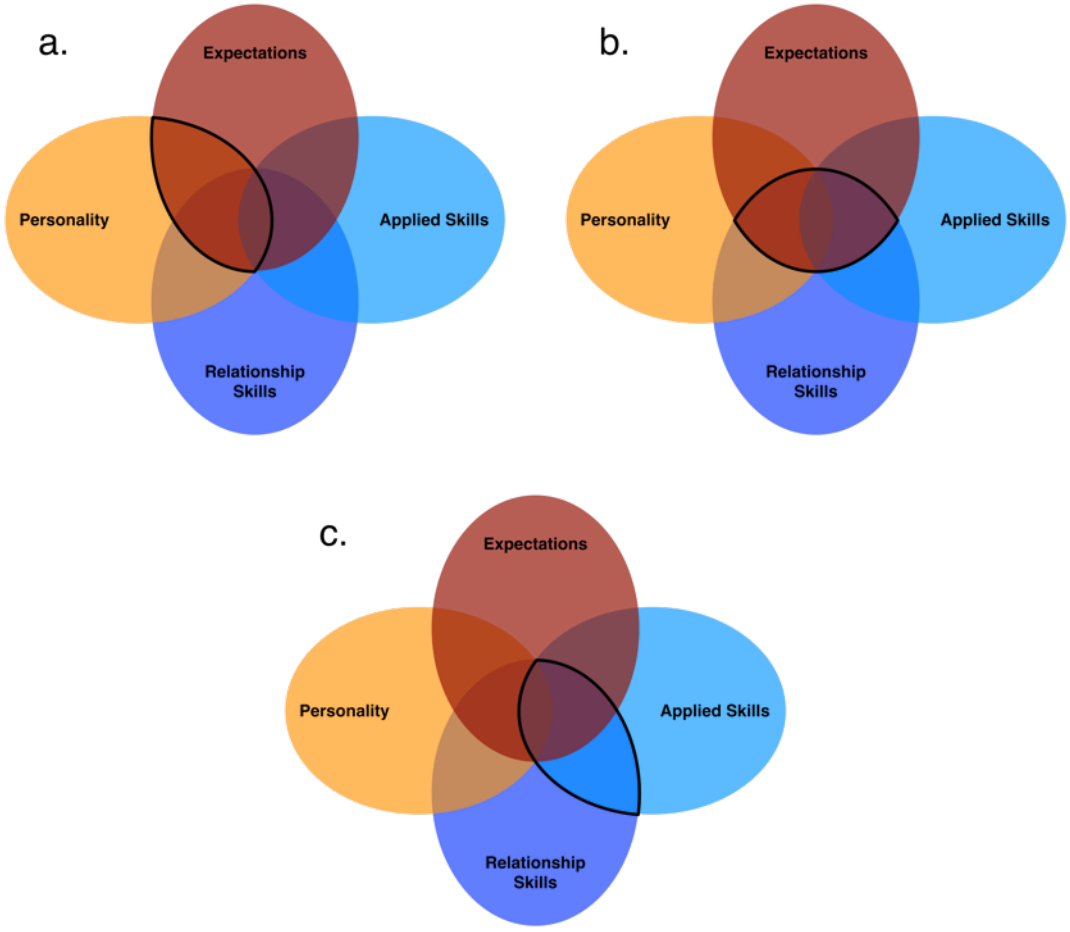


**Figure 2.3** Key intersections in the theoretical framework: *initial compatibility* (a), *ongoing compatibility* (b), and *skill development* (c)

Measurement tools for thin-slice judgements are not directly applicable to the current domain since they are geared toward individuals in a romantic relationship. However, a combination of personality and skills factors can approximate this technique. Big Five facets such as gregariousness (extraversion) and competence (conscientiousness) describe personality characteristics that will be seen early in a relationship. Similarly, surface-level similarities such as extra-curricular interests (meta-

teaching activities), and skills that dominate early-relationship contact such as communication and professionalism can contribute trait descriptors that address initial compatibility.

The second key intersection represents ongoing compatibility (Figure 2.3b). As the internship progresses, the intern and mentor become more familiar with each other and move into a working routine (Izadinia, 2015b; Patrick, 2013). This intersection describes much of the internship experience, and it is characterized by an intersection of all four categories. Compatibility of personalities can eliminate the need for interns and mentors to consciously "work on" the relationship (Ferrier-Kerr, 2009), which can result in more productive working conditions. Lawley et al. (2014) concluded that a collegial, collaborative environment was important to successful internships. This environment provides a space for interactive skill development and an opportunity for respectful, constructive criticism. Alignment of expectations regarding the goals and roles present in the relationship is critical for a stable working routine (Izadinia, 2015b; Kemmis, Heikkinen, Fransson, Aspfors, & Edwards-Groves, 2014).

Many facets of the FFM will apply to compatibility at this stage, particularly trust (*agreeableness*), ideas (*openness*), and competence (*conscientiousness*). As the internship progresses, the intern's teaching load increases and development of skills accelerates. This progression includes a developing relationship (*relationship skills*), and more teaching opportunities (*applied skills*). It is anticipated that most of the individual items on the compatibility instrument will contribute to ongoing compatibility.

The final key intersection represents skill development, and is characterized primarily by the intersection of relationship and applied skills (Figure 2.3c). The

internship is a formidable learning experience for interns and a valuable source of professional development for mentors (Smith, 2010). Smith (2010) noted that feedback (both intern to mentor and mentor to intern) is an important contributor to maximize that experience. Tollefson and Kleinsasser (1992) indicated that skill development is a key component of the internship, and that interpersonal skills grow in a friendly interpersonal environment. Moreover, mentor expectations of intern skill level can have a strong effect on the intern-mentor relationship (Bradbury & Koballa, 2008; Ferrier-Kerr, 2009; Hastings, 2010). Additionally, the internship is an assessed component of a pre-service education program, and colleges of education routinely provide categorized lists to measure skill development (for example, University of Alberta, n.d.; University of Saskatchewan, n.d.; University of Toronto, 2015).

The constructs identified in the theoretical framework fall within the categories of complementary and supplementary fit (Kristof-Brown et al., 2005). Complementary job satisfaction is determined by how well the individual's supplies fit the organization's needs, and vice versa. In the context of the internship this is realized in the professional growth and skill acquisition of the intern and the mentor, and is represented in the theoretical framework by *relationship skills* and *applied skills*. Supplementary job satisfaction is determined by how well the individual is validated by interacting with similar personalities. In the context of the internship this is realized in the relationship between the intern and the mentor, and is represented in the theoretical framework by *personality* attributes. The complementary and supplementary categories also correspond to instrumental and psychosocial supports as defined by Ensher and Murphy (1997).

It is worth noting that all the intersections described in this section contain all four categories in the theoretical model. As described throughout this chapter, there is considerable overlap between the categories, and the key intersections contain each of the categories in different proportions. For example, the intersection corresponding to *initial compatibility* is influenced most strongly by *personality* and *expectations*, and only marginally by *applied skills*. Similarly, the intersection corresponding to *skill development* is influenced most strongly by *applied skills* and *relationship skills*, and only marginally by *personality*. The intersection corresponding to *ongoing compatibility* is in the middle of the model and represents an equal balance of all four categories.

## 2.8 Summary

This chapter presented an overview of literature surrounding personality traits, skills, and expectations selected for relevance to the education internship. The five-factor model was chosen to measure personality traits; specifically the instrument developed by John et al. (1991). Skills were identified based on intern assessment forms collected from Universities in Canada and the United States. These skills were grouped into two categories: *relationship skills* and *applied skills* (Table 2.4). *Expectations* play a supporting role for personality and skills, and also a distinct role in determining the motivation and goals of interns and mentors.

To measure factors within personality, 522 assessment items were derived from the literature within the categories of *personality*, *relationship skills*, *applied skills*, and *expectations*. This process allowed for partial answers to the first, second, and fourth research questions, with full answers to be sought following the completion of data collection and analysis.

1. What traits are perceived as critical to describe a successful internship match?

   Traits were distilled from numerous sources in the disciplines of psychology and education. As described in Chapter 3, interpretation panels were tasked with refining the initial set of traits to create a list that is targeted to predict compatibility for interns and mentors.

2. How do those traits group together into measurable factors?

   Factors were identified from the literature, and from patterns observed among the identified traits. The factors identified at this stage of the study are listed in Table 2.1. Similar to the traits in the previous question, interpretation panels were responsible for refining the identified factors, and suggesting new ones.

4. What theoretical and practical intersections exist between categories and factors?

   Three key intersections were identified: initial compatibility, ongoing compatibility, and skill development. Additionally, some factors contributing to measurement of those intersections were proposed. The accuracy of the predicted intersections and contributing factors was considered during data collection and analysis.

# CHAPTER 3

# METHODOLOGY

The purpose of this study was to develop a compatibility instrument for predicting a successful intern-mentor relationship. Keppel and Zedeck (1989) stated that the "primary objective of a research project is to answer questions" (p. 2). Moreover, the answers should be attained and analyzed in such a way that the researcher is confident in the integrity of the conclusions. This chapter describes the design, data collection and analysis, and ethical considerations for a mixed methods study.

## 3.1 The Research Design

A mixed methods approach, derived from a pragmatist epistemology, underpinned this research study. This section describes my philosophical stance and provides an outline of the chosen mixed methods design.

### 3.1.1 Philosophy

Epistemology can be framed as the "relationship between the knower and the known (the researcher and the participant)" (Teddlie & Tashakkori, 2009, p. 89), and it defines the nature and acquisition of knowledge. Traditionally this has been represented by the extremes of objectivism (the researcher observes the participant) and subjectivism (the researcher interacts with the participant). As "methodology [is] the bridge that brings epistemology and method together" (Hesse-Biber & Leavy, 2008, p. 2), a quantitative methodology would link an objectivist epistemology with quantitative methods of collecting and analyzing data. Pragmatism is the belief that objectivism and subjectivism form a continuum, where the relationship between the researcher and the

participant shifts depending on the purpose and question under consideration (Teddlie & Tashakkori, 2009).

Pragmatism, specifically methodological pragmatism, is characterized by continual experimentation and plurality of methods (Goldkuhl, 2012). That is, methods are chosen for their suitability to the current research question and purpose, and specific methods are attempted, revised, and rejected as necessary. The focus on question first is common in pragmatist research designs (Creswell & Plano-Clark, 2011; Teddlie & Tashakkori, 2009).

Pragmatism is a common epistemology behind mixed method studies (Creswell & Plano-Clark, 2011). By placing method as subservient to question and purpose, the researcher takes advantage of the strengths of qualitative and quantitative methods to mitigate the drawbacks of each methodology. Following the bridge analogy, mixed methods might be more appropriately named mixed methodologies where the researcher takes a different bridge depending on the desired destination.

### 3.1.2 Exploratory Sequential Design

This study used an exploratory sequential design (Creswell & Plano-Clark, 2011). Exploratory design begins with qualitative data collection and analysis, and employs a later quantitative phase to confirm and generalize the qualitative results. The qualitative phase is generally prioritized over the subsequent quantitative data collection and analysis. Creswell and Plano Clark (2011) identified an optional intermediate phase during which an instrument is designed for use in the quantitative phase. For the current study the intermediate phase resides partially in the initial qualitative phase. The research design for this study is displayed in Figure 3.1.

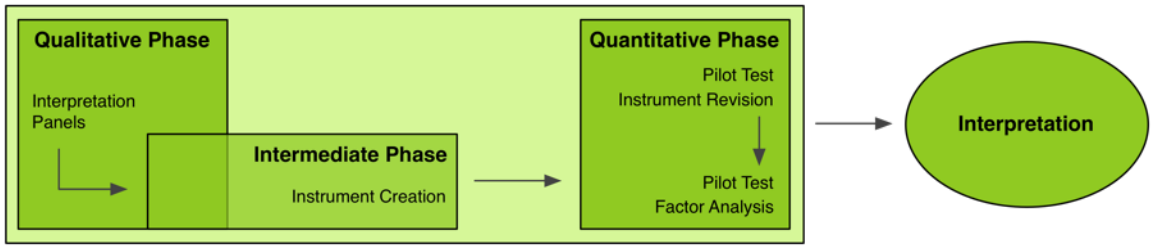


**Figure 3.1** Exploratory sequential design adapted from Creswell and Plano Clark (2011)

The purpose of using an exploratory design was to capitalize on the expert domain knowledge of current and previous interns, mentors, and administrators for construction of the compatibility instrument (QUAL); and to test that instrument for deployment in the placement program (QUAN). A mixed methods design was chosen for this study to take advantage of expert knowledge of individuals, while providing a quantifiable and measurable compatibility instrument.

The qualitative phase of the project employed interpretation panels (Noonan, 2002) to identify the content of the instrument. The instrument was consolidated and organized in the intermediate phase. Finally, the instrument was put through a large-scale pilot test in the quantitative phase to provide a data set for a factor analysis of the instrument. A final interpretation was conducted to examine the overall process.

### 3.1.3 Interpretation Panels

Interpretation panels represent a collaborative approach to results interpretation using specialized focus groups. They differ from focus groups in three key ways (Noonan, 2002). First, participant selection is always purposeful rather than potentially random. Second, they are intended for data interpretation rather than data collection. Finally, the goal of an interpretation panel is to arrive at a unified conclusion, rather than to simply produce conflicting data. These differences made interpretation panels particularly well suited for this research project.

Participants for this project were purposefully selected for their expert knowledge of the internship. The goal of the qualitative phase of this study was to establish a set of questions to be used in the compatibility instrument. This involved interpretation of the results of the literature review as summarized in Chapter 2. The conclusions provided by the interpretation panel formed the foundation of the compatibility instrument that was pilot tested in the qualitative phase. Therefore, it was useful to for the panel to reach a unified conclusion regarding the information provided in Chapter 2.

The researcher functions as a moderator in focus groups. He or she is responsible for ensuring that all individuals are heard and that dominant personalities do not overwhelm the conversation (Creswell, 2007). The moderator should have good interpersonal skills to assist group discussion, resolve conflicts, and generally keep the group on target (R. B. Johnson & Chistensen, 2014). Within interpretation panels, the researcher also has the role of moderator. Additionally, the researcher is tasked with encouraging discussion towards an agreement about the data being interpreted (Noonan, 2002).

## 3.2 Data Collection

The exploratory mixed methods design consists of separate qualitative and quantitative phases conducted sequentially (Creswell & Plano-Clark, 2011). This section describes rationale and data collection approach, as well as participant selection and specific data collection methods for the separate phases.

### 3.2.1 Participant Selection

There were two groups of participants for this study. First, domain experts were used in the qualitative phase to establish the content of the compatibility instrument. In the quantitative phase a pilot test was used to assess the compatibility instrument.

#### 3.2.1.1 Qualitative Phase

The purpose of using mixed methods in this study was to create a quantitative survey, whose development was informed by the expert knowledge of individuals. Purposeful sampling, as defined by Creswell and Plano Clark (2011) is appropriate for selecting participants for the qualitative phase. Using this sampling method, participants are deliberately identified for their knowledge of the key concept. For this study, these individuals consisted primarily of current interns and mentors. An additional round of participant recruitment included past interns and mentors, university-based administrators, and school-based administrators. Each of these groups brought a unique perspective on, and understanding of, characteristics that contribute to successful and unsuccessful internship relationships.

Participants for this phase were identified through the College of Education at the University of Saskatchewan, and invited by email to participate in this study. The identified participant pool consisted of current interns and mentors located in and around Saskatoon. Interns and mentors were asked to contribute to separate interpretation panels that were conducted at a specified time. This approach was chosen to prevent a power imbalance within the groups, and helped to balance the number of interns and the number of mentors.

An upper limit of 12 individuals was imposed for the interpretation panels. Recommended sizes for focus groups vary slightly, but most agree on ranges of 5-10 (Teddlie & Tashakkori, 2009) or 6-12 (Creswell & Plano-Clark, 2011). Two interpretation panels were initially planned for this study. After considering the data from these panels, three additional interpretation panels were conducted. It was determined that saturation (Teddlie & Tashakkori, 2009) had not been reached with the first two panels. After examination of the data from five interpretation panels, the decision was made to move on to the quantitative phase.

The participants for the second round of panels were drawn from a wider participant pool, including university-based administrators and school-based administrators in addition to current interns and mentors from rural communities. These individuals were identified through snowball sampling (Teddlie & Tashakkori, 2009) and invited by email to participate in the study. Allowing the initial round of interpretation panels to determine the inclusion and structure of later panels followed an emergent research design (Morgan, Fellows, & Guevara, 2008).

#### 3.2.1.2 Quantitative Phase

The quantitative component of this study consisted of a pilot test of the compatibility instrument. Pilot tests might be used for assessing grammatical, logistical, layout, and other minor issues with a survey (Hertzog, 2008; van Teijlingen & Hundley, 2001). Alternatively, a pilot test can be used to test validity, reliability, and other statistical issues with a survey (Hertzog, 2008; Johanson & Brooks, 2010). Each of these goals requires a different selection process for, and number of, participants.

The purpose of the large-scale pilot test in this study was to conduct a factor analysis for identification of the variables being measured in the survey. The sample size required to run a trustworthy factor analysis varies considerably depending on the reference consulted. If considering a ratio (of participants to survey questions) the recommended number can vary from 5:1 (Child, 2006) to 20:1 or greater (R. Kline, 2013). Most sources agree on an absolute minimum of 100 participants with suggested minimums of 200 (Child, 2006; R. Kline, 2013) to 300 (Tabachnick & Fidell, 2007). Undergraduate education students were selected for the pilot test. The pilot test was deployed electronically, and individuals were invited by email to participate. Use of undergraduate students to validate survey instruments is a common practice in personality assessment within the field of Psychology (for example, Rammstedt & John, 2007; Saucier, 1994; Wortman et al., 2014).

### 3.2.2 Data Collection Methods

The exploratory mixed methods design is sequential; therefore multiple rounds of data collection were required (Creswell & Plano-Clark, 2011). Qualitative data collection comprised five interpretation panels. Quantitative data collection comprised a large-scale pilot study to test the compatibility instrument.

#### 3.2.2.1 Qualitative Phase

Interpretation panels are a form of specialized focus group where both data collection and data interpretation occur (Noonan, 2002). At the beginning of the panel, participants were provided with some background information on the project in order to situate their role within the project as a whole, and their responsibilities as members of the interpretation panel. The background information included definition of terms and

concepts, as well as an orientation to the interpretation panel procedure. This information expanded on the purpose, objectives, and procedures identified on the participant consent form.

The general characteristics (factors) identified in Chapter 2 were attached to walls around the room, and the interpretation panels were provided with large printouts of the individual phrases. The participants were then asked the following questions:

1. Which phrases and adjectives describe important considerations for a compatible intern-mentor relationship?
2. To which general characteristics do these adjectives correspond?
3. Are there any phrases or characteristics missing that you think should be added?

After some discussion, participants were asked to attach the most important traits to the walls under the factor that best matches each trait. In the case that a consensus could not be reached, notes were taken indicating the arguments of the differing sides.

An audio recording was taken of the interpretation panels, and a visual recording of the room was taken at the end of the session. Additionally, a peer colleague was present in the room as an observer and record keeper to ensure that critical components of the discussion were preserved. The anticipated length of an interpretation panel was 90 to 120 minutes; although most panels were closer to 180 minutes in length.

#### 3.2.2.2 Quantitative Phase

A small-scale pilot test was conducted informally with a paper version of the compatibility instrument. Data from this pilot test was collected informally and used to improve the layout, flow, clarity, and grammar of the compatibility instrument. Formal

data collection and analysis is unnecessary for this type of pilot test (Hertzog, 2008; Johanson & Brooks, 2010).

Undergraduate education students formed the participant pool for the large-scale pilot test. These students were identified through College records, and were invited by email to complete an electronic version of the compatibility instrument. Similar to the interpretation panels, participants were provided with information regarding the purpose of the study and of their role within it. This explanation expanded on the purpose, objectives, and procedures identified in the participant consent form. The anticipated completion time for the compatibility instrument was 10 to 15 minutes. Data was collected electronically and was exported to a spreadsheet in preparation for analysis.

## 3.3 Data Analysis

In mixed methods research, data analysis combines qualitative and quantitative techniques. For an exploratory sequential design, the quantitative data collection and analysis takes place after qualitative analysis is complete (Creswell & Plano-Clark, 2011). This sequential analysis allows for confirmation and generalization of the qualitative conclusions.

### 3.3.1 Qualitative Analysis

The goal of an interpretation panel is to arrive at a unified conclusion given a source of data. Therefore, the panel collaborates with the researcher in both coding and interpretation of the results (Noonan, 2002). In this situation, the analysis consists of reporting the conclusions drawn by the panel. Noonan (2002) suggested that the collaborative nature of interpretation panels could present a quandary for the researcher with regard to how closely the panel's conclusions will be followed. For the current

study, one goal of the qualitative phase was to capitalize on expert knowledge. Therefore, conclusions drawn by the panel were considered correct and left unaltered with three exceptions.

First, it was not always possible for the panel to reach agreement regarding their conclusions (Noonan, 2002). In cases where a consensus was not reached by the end of the session, I attempted to include both conclusions in the compatibility instrument. However, in some situations I found it necessary to interpret the audio recording and assign a best-fit solution based on my interpretation of the situation.

Second, multiple panels were used in this study and their conclusions did not always coincide. The deviation in conclusions was particularly noticeable when comparing a panel consisting of interns with a panel consisting of mentors. As stated previously, there is an inherent power imbalance in the internship relationship and these two groups may disagree on important characteristics of that relationship. In these cases, I attempted to include both points of view in the compatibility instrument. When that approach failed, I interpreted the audio recordings to establish a middle ground between the two groups.

Third, the primary goal of this project was to create a compatibility instrument. Therefore, the interpretation panel results needed to be coerced into a survey structure of an appropriate length. As discussed in Chapter 1, there is a time constraint that dictates the length of the survey. Interpretation panels were made aware of this constraint, but were not held strictly to it. As such, it was necessary to remove some conclusions drawn by the interpretation panels from the final compatibility instrument. Moreover, the results of the quantitative phase adjusted these conclusions even further.

Every effort was made to present the interpretation panel conclusions in the final survey. Figure 3.1 shows the intermediate, instrument design phase as part of the qualitative phase to indicate the importance of these conclusions. However, the intermediate phase does not rest solely within the qualitative phase, and adjustment of the qualitative results was required for the betterment of the final compatibility instrument.

### 3.3.2 Quantitative Analysis

The quantitative analysis consisted of a factor analysis of the results from a large pilot study. Factor analysis is a technique by which general (latent) factors are extracted from a set of measured variables (R. Kline, 2013). This process is driven by correlations between the variables. Variables that tend to correlate strongly with each other across all completed surveys will clump together into a factor. In the current study the individual survey items represent the measured variables, and characteristic categories (like *conscientiousness* or *professionalism*) represent the general factors. The individual survey items are the measured variables. Factor analysis is available in two flavours: confirmatory and exploratory.

Confirmatory factor analysis requires the factors to be specified before the analysis is conducted (R. Kline, 2013). It is used when the researcher expects to measure certain factors, and wishes to confirm that the measurement tool is effective for that use. For example, consider if the interpretation panels concluded that measurement items corresponding to the personality factors *openness* and *conscientiousness* are important for intern-mentor compatibility. Those items (variables) would be included in the compatibility survey, and I would expect them to measure the factors *openness* and

*conscientiousness*. Confirmatory factor analysis could be used to determine if those factors are indeed measured by those survey items.

In exploratory factor analysis the factors are identified by the procedure itself (R. Kline, 2013). This technique is useful when the researcher does not know what is being measured, and wishes to understand the measurement tool at a more general level. This technique would be useful in the current study if I am not sure which factors are present in the final compatibility survey. Exploratory factor analysis can be employed to determine the number of factors, and the grouping of individual survey items contributing to those factors.

For the current study, exploratory factor analysis was used. General factors and specific measureable traits were identified in Chapter 2, and the interpretation panels chose a subset of these factors and variables for inclusion in the compatibility instrument. As noted in section 2.5.3, it was expected that there would be correlation between the skills categories and the skills factors. Exploratory factor analysis was used to identify factor solutions within the data.

## 3.4 Ethical Considerations

Participants for the qualitative phase were chosen for their knowledge of, and experience with, intern-mentor relationships. Participants in the quantitative phase were selected for reasons of accessibility and experience. Ethics approval was obtained from the University of Saskatchewan Advisory Committee in Ethics in Behavioural Sciences Research. Consent to participant was implied through participation in the study. No direct compensation was provided, although a meal was supplied for participants contributing to the interpretation panels, and a raffle for an iPad was conducted for

participants in the quantitative phase. All participants were thoroughly informed of the parameters of the study, both in the participant consent form and in the study itself. Participants were informed of their right to withdraw from the study at any time without penalty. Trustworthiness was ensured through use of a visual recording of the room following the interpretation panels. To mitigate the chance of bias a peer colleague was present in the room during the interpretation panels to observe and take notes, and to discuss the results. Confidentiality and anonymity were respected for all participants in each phase of the study. This study contained minimal risk to participants. Copies of the letters of invitation for the qualitative and quantitative phases are presented in Appendix A.

## 3.5 Summary

This chapter outlined the methodology and methods that were employed within this study. The study proposed an exploratory sequential mixed methods design. The initial qualitative phase consisted of interpretation panels, which began construction of the compatibility instrument. The instrument was tested in the quantitative phase to identify factors for measurement. Details regarding methods of data collection and analysis were presented.

# CHAPTER 4

# RESULTS

The primary purpose of this study was the creation of a compatibility instrument for predicting compatibility between interns and mentors during the undergraduate education internship. This chapter advances that purpose through the three phases of this mixed methods study. During the qualitative phase, the interpretation panels undertook to refine the initial list of traits developed in Chapter 2. The results of the qualitative phase were refined during the intermediate and quantitative phases. A final compatibility instrument consisting of 50 items is presented at the end of this chapter.

This chapter describes the qualitative, intermediate, and quantitative phases of the study. Section 4.1 describes the qualitative phase, where the full list of traits identified in Chapter 2 was reduced from 522 to 334. Section 4.2 describes the intermediate phase, where the qualitative results were refined into a 100-item pilot study. Finally, Section 4.3 describes the quantitative phase, where 50 traits were eliminated from the pilot study to create the final compatibility instrument consisting of 50 items.

Recall from Chapter 1 that the compatibility instrument was organized into categories, factors, and traits. The categories identified in Chapter 2 were *personality*, *relationship skills*, *applied skills*, and *expectations*. Factors represent the intermediate organizational level of the compatibility instrument. Nineteen factors were initially identified; these are reprinted here in Table 4.1. Traits were the individual line items on the survey. The terms *traits* and *items* are used interchangeably throughout this document.

**Table 4.1** Factors and categories identified in Chapter 2

| | Skills | | |
|---|---|---|---|
| Personality | Relationship | Applied | Expectations |
| Openness | Diversity and equity | Planning | Role of mentor |
| Conscientiousness | Reflection | Instruction | Role of intern |
| Extraversion | Communication | Assessment | Goal of internship |
| Agreeableness | Professionalism | Content Knowledge | |
| Neuroticism | | Classroom Management | |
| | | Meta-teaching activities | |
| | | Technology | |

## 4.1 Qualitative Phase

This section describes the interpretation panel results. Five interpretation panels were conducted, consisting primarily of current interns and mentor teachers. The panels were tasked with reducing the initial list of traits identified in Chapter 2. Observations of the composition and tendencies of each panel are described in Section 4.1.1. Aggregated results from the interpretation panels can be found in Section 4.1.1.6.

### 4.1.1 The Interpretation Panels

Five interpretation panels were conducted over three months. The traits identified in Chapter 2 were provided to the panels as half-page cards. A sample of these cards is included in Appendix B. There were cards for the 522 individual traits, the four categories, and the 19 factors within those categories. The panels used these cards to sort through the full list of traits during two tasks.

For the first task participants were instructed to go through the cards and separate them into “keep” and “discard” piles. The “keep” pile would be retained for the compatibility instrument, while the “discard” pile would be eliminated from consideration. Only items from the “keep” pile were considered during the second task. The panels were told that more than 80% of the total cards would need to be removed, so

they should aim to discard at least 4 for every 1 that they wanted to keep. This proved to be a difficult task, and most panels kept traits in excess of the 4:1 ratio.

Interpretation panels had trouble with this task due to the large number of initial traits, and to frequent overlaps in the meaning of traits, which made it difficult to choose a "best" trait to describe a topic. These difficulties resulted in more retained traits as the panels often elected to keep multiple alternative wordings rather than evaluating the alternatives and selecting one. For example, Panel 5 could not express a preference between *I am a person who improves my own oral language skills* and *I am a person who improves my own written language skills*. As a result, Panel 5 retained both of those traits during the first task.

The second task involved assigning traits to factors. This process was intended to reveal how the interpretation panels interpreted individual traits. Additionally, the panels were provided with a second opportunity to remove similar or unnecessary traits during the second task, but in practice very little was removed after the first task. The results of the second task are not presented in detail in this section. They will be presented again in relation to the factor analysis results presented in Section 4.3, and a more thorough discussion can be found in Section 5.1.2.

The use of interpretation panels for this phase of the study resulted in a divergent categorization of traits to factors. That is, the interpretation panels assigned traits to factors differently than I did in Chapter 2. This divergence was expected, since the categorization provided in Chapter 2 was not assumed to be correct, and the qualitative phase was intended to inform and improve that categorization. However, the divergence makes discussion of the results awkward. Therefore, the categorization in Chapter 2 will

be used as the default reference for all traits, to provide a baseline that enables comparison across panels.

For example, in Chapter 2 the trait *I am a person who applies content to real-world problems* was assigned to the factor *content knowledge* in the category *applied skills*. This trait was retained by all five panels, but not all felt that it was an aspect of *content knowledge*. Instead, Panel 2 and Panel 3 assigned it to *meta-teaching activities*, and Panel 4 assigned it to *instruction*. Despite these differences, this trait will be referred to as a *content knowledge* trait throughout this chapter.

This section contains observations about the composition and interactions of each interpretation panel. Additionally, trends and tendencies within the panels will be highlighted.

#### 4.1.1.1 Panel 1

The first panel included five interns near the end of their internship. This panel did the most thorough job of reducing the initial list of traits to a manageable level, cutting the full list of 522 down to 108 unique traits. They were also the most active in changing the wording of the initial traits, and in moving traits across categories and factors.

Among this panel there was a considerable amount of discussion about how the questions would have applied to their individual situations, which caused them to be reflective of their own internship experiences. Additionally, this reflection led the panel to be quite vocally conscious of an intern's unwillingness to "compromise" themselves on an application by claiming that they do not have certain skills. The belief that interns

would present themselves favourably (rather than honestly) on the compatibility instrument was consistent among all five interpretation panels.

This panel proposed three solutions to the issue of respondents being untruthful. First, they suggested the wording "skills I want to refine during my internship" as a way to get around an unwillingness to claim less than expert knowledge of a skill. Second, they eliminated items "because they were negative and people don't want to [portray themselves from a negative perspective]". Finally, one participant had an innovative, albeit impractical, solution to this problem. She wanted somebody else to fill out the application about her, instead of doing it herself. Her goal with this approach was that someone else would be more honest, which would lead to a more accurate representation of her personality and skills.

During the first task, this panel split into smaller groups to sort through three of the four categories. One group looked at traits in the *personality* category, one group sorted through *relationship skills*, and the last group organised traits from *applied skills*. Since *applied skills* was the largest category, participants from the other groups moved to assist with that pile as they finished with the other categories. This approach had some consequences for the group discussion.

There was a substantial amount of discussion about the overwhelming number of traits to sort through, and its toll was observable on the group. For example, one participant thought that technology was an important skill category, but could not remember if she had put any technology traits into the "keep" pile. Another said "I don't know how to do this; I don't know how to get rid of any of this". Additionally, there was a considerable amount of discussion during the second task (assigning traits to factors),

since not all participants had seen the traits during the first task. In general, there was a lot of discussion about understanding how to interpret a trait, and to which factor a trait belonged. Conversely, there was much less discussion about whether the trait should be included at all.

Many traits sparked a conversation about the interpretation of specific words and phrases. There were several times when somebody asked "What does that mean?". For example, participants were unsure to what the phrase "instructional strategies" referred. Variations in interpretations of terms were also dependent on the background of the participant, particularly with respect to the word "critical". One participant, who had a background in international development, interpreted "critical" as coming from a social justice perspective, which led to a long discussion about what "critical" meant in the context of these traits. Participants occasionally expressed a desire for longer items with more context in the item text.

The participants in Panel 1 had a lengthy conversation about aligning the language of the questions with the language used in their university classes. For example, one participant wanted to discuss her "philosophy of education" during her degree, but never had an opportunity. Another countered with "that's all we ever talked about!". It was observed that individuals interpret and respond to the survey items in different ways, depending on their specific background and training.

#### 4.1.1.2 Panel 2

The second panel included two interns who had recently completed their internship. This panel kept 147 traits from the total of 522. Compared to Panel 1, they were far less likely to move traits across categories, although the interpretation of which

factor a particular trait belonged to frequently differed from the trait assignment in Chapter 2. In particular, this group kept a large number of traits from the *applied skills* category. Additionally, this panel gave considerable weight to social justice issues, which resulted in many traits being interpreted as describing *diversity and equity* issues.

The participants in this panel worked quite well together. There was relatively little discussion compared to other panels, because they almost always agreed about the inclusion or removal of traits from the pool. They primarily used four decision criteria to remove items from consideration.

First, and most common, was a focus on external expression of skills over internal expression of skills, which would be the difference between saying "Do you feel…?" and "Do you do…?". One participant said "We are looking for action words more than feeling words". The goal they expressed for this approach was that action words should lead to more variation in responses. They used this rationale to retain the trait *I am a person who uses instructional strategies* instead of *I am a person who understands instructional strategies*.

Other decision criteria employed by Panel 2 were used less frequently. These included teacher competencies that are assumed, fear of admitting to the absence of a skill, and traits that do not exist on a spectrum. The panel decided to remove some items because they are just "part of being a teacher" or "that's just a given [for teachers]". They felt that the compatibility instrument should not need to address traits that would be something that all teachers would do anyway. Similar to that approach, some items were removed because "I would never admit to that on a job application", which implies that

the interns viewed the internship more as an employment situation than as a learning situation.

Finally, some traits were eliminated because the participants perceived them to be yes/no traits that would not generate responses on a spectrum. However, when considering the *expectations* category, this criterion seemed to become less important. They tended to treat the expectations as yes/no or right/wrong items, rather than a spectrum with distinct, but equally valid, endpoints. Additionally, this group was less reflective with respect to what other people might think the goals and roles of the internship were. For example, *The goal of the internship is school environment familiarity* was eliminated because "That's part of the practice teaching [year 3], not part of the internship". Conversely, both of the other intern panels elected to keep that trait.

At the start of the panel there tended to be more discussion about the interpretation of questions. On a few occasions they elected to remove a trait because they felt that there would be too many differing interpretations of the item. For example, one participant stated "That's a hard one because you have people who think they do a thorough job, but everybody's interpretation of it is different." The discussion of interpretation became less pronounced as the panel progressed. Instead, the participants relied more on the decision criteria explained above to decide on the inclusion of traits.

Panel 2 showed a tendency to keep the first trait pertaining to a topic and then reject all the subsequent ones. This led to reduced conversation about the merits of a trait's particular wording, and instead, they simply kept the one that came up first. For example, *I am a person who participates in ongoing learning opportunities* came up early in the session. When they came to the related trait *I am a person who actively seeks*

*professional growth* they rejected it without any discussion because they had already retained the first one. By contrast, the second trait was more popular among the other interpretation panels, and is ultimately the trait that ended up in the pilot test. If one wording seemed to be clearly better than another when considering related traits, Panel 2 would have a brief discussion about which trait to retain. However, when choosing between two (seemingly) equally good wordings, there was seldom discussion about the merits of a particular wording. For Panel 2, this seemed to be a coping strategy to deal with the large initial number of traits.

This panel was unique in that they tended to organize traits into factors as they sorted through the whole list of traits, while other panels simply organized into "keep" and "discard" piles. For example, during the conversation there were a number of variations on "This one goes with that pile over there". These factors (piles) were never given names, but the group used a more organized approach to dealing with the full list. Unfortunately, they did not extend those factors to the second task. When given the opportunity to organize traits into factors, they discarded their categorization and stayed very close to the factors identified in the literature review.

#### 4.1.1.3 Panel 3

The third panel included three interns who had recently completed their internship. This panel reduced the full list to 115 traits. Like Panel 2, they were less likely to move responses across categories, but they consistently changed which factors an item belonged to. One of the participants quickly took over as the leader of the group. That person read each trait, and then led any discussion that happened around that item.

Early in the panel, this group questioned the value of including multiple, similar items. In particular, they wanted to understand a rationale for including both *I am a person who is shy* and *I am a person who is talkative*. I explained the distinction between asking one question to measure the factor *extraversion* ("Are you extraverted?", for example), and asking multiple questions pertaining to behaviours about being extraverted. This is the distinction presented by Gosling et al. (2003) described in Section 2.4.2.1. The panel used that information to assist with decision making throughout the rest of the session, by retaining multiple items for topics they considered important, and by eliminating items when they felt that a topic was already covered.

As an extension of that strategy, the panel had a tendency to say "yes, add it to the keep pile—we can remove it later". This was a common attitude among the other interpretation panels, but seemed more pronounced with this group. It is possible that this was a coping strategy to help organize the full list of traits, similar to the organization into factors practiced by Panel 2. Unfortunately, there were simply too many traits for this to be an effective strategy. As a result, many "on the fence" items were retained without any further discussion, because the group seemed to forget why they were there.

Similar to Panel 1, there was an extended conversation among the participants of this panel regarding how individuals will be differently equipped to respond to items based on the classes that they have taken. For example, when considering the trait *I am a person who has developed a professional identity*, one participant asked the question "You're filling this out before the internship. Do you have a professional identity?". Another participant was quite definite in responding "Yes, some people will have that already". A similar discussion arose around the trait *I am a person who understands*

*educational legislation*, because one of the participants had taken the educational law class prior to beginning the internship while the others had not. These conversations contributed to the decision to eliminate several items because "interns won't have developed that skill yet".

An extension of that elimination criterion was the identification of some problematic words. In particular, the terms "maladjustments" and "ameliorates" were not understood by every member of the panel, which highlights the importance of simple language when considering interpretability of the traits. There was a similar discussion around the difference between *I am a person who supports the vision of the school* and *I am a person who supports the mission of the school*. These are distinct things within a school, but there could be a legitimate issue with interns understanding the difference between them.

There was a lengthy discussion around the traits *I am a person who can be moody* and *I am a person who can be depressed*. One participant characterized these items as a tendency for individuals to internalize or externalize things that bother them. The panel felt that it would be useful to know about that tendency for compatibility purposes. However, the panel also felt that it would be unlikely for people to answer these questions honestly.

This group mirrored Panel 2 in using active wording in an effort to encourage honest responses. For example, they retained *I am a person who incorporates constructive criticism into practice* instead of *I am a person who responds positively to constructive criticism*. The conversation about this decision focused on the word "incorporates" (i.e. does something) over the word "responds" (i.e. passively

acknowledges the constructive criticism). One participant said, “We’ve been keeping the more practical - words like ‘incorporates’ instead of ‘understands’”.

#### 4.1.1.4 Panel 4

The fourth panel included three mentor teachers from urban schools who had recently taken an intern. One of these teachers was also a vice-principal. This panel kept 112 traits from the full list of 522. They retained a proportionally large number of traits corresponding to the *applied skills* category.

In comparison with the panels of interns, these teachers were much more confident about which skills were part of the job of teaching and which skills were not. They were also much more definite about which skills interns should be able to exercise during the internship, which resulted in the elimination of items because the panel felt that they were outside the scope of the internship. It also led the panel to eliminate items that seemed to be too obvious. Similar to Panel 2, this group felt that some items were simply part of being a teacher. Consequently, they felt that people would not respond to those traits on a spectrum. Instead, all responses would be skewed to one side.

Panel 4 almost always chose traits based on how they thought interns would respond, and they largely ignored the fact that teachers would also complete the survey, which led them to frequently perceive the traits as things needing improvement. One participant remarked “If a person has this quality already, we don’t have to deal with it”. A positive side effect of this thinking led them to take careful consideration of whether an intern would have a particular skill before doing the internship. This rationale was used to justify the elimination of several items from the full list.

Traits that used simple or direct wording seemed to be favoured over those that use broad or general wording. The panel also expressed a preference for using one direct question rather than multiple indirect questions to measure a factor. For example, when questioned about keeping multiple traits that contribute to the concept of differentiated learning instead of one trait that simply asks if respondents use differentiated learning techniques, they elected to keep just one question. They felt that there was no need to be "sneaky", just ask people what you want to know.

There was a considerable amount of discussion regarding the term "apprentice" in the context of expectations of the internship. In particular, the panel was considering in the inclusion of *The role of the intern is apprentice* and *The goal of the internship is apprenticeship*. The panel felt that there might be some teachers and interns who view the relationship as unbalanced (master-apprentice). However, they also felt those items should be eliminated since the perception of the internship as a relationship with an unbalanced power differential should not appear to be supported or endorsed.

One of the participants in this panel was a teacher and a vice principal. She frequently chose traits based on a model used within her school. That model had student learning at the center surrounded by four quadrants: staff (teachers), understanding curriculum, understanding the student, and understanding the milieu (classroom management). As with Panel 2, this categorization was not pursued during the second task. Instead, this participant stayed close to the factors identified in Chapter 2. The existing model was only used as a criterion for making decisions about the inclusion of items.

#### 4.1.1.5 Panel 5

The fifth panel included four mentor teachers from rural schools who had recently taken an intern, and one internship facilitator from the university. This group retained the largest number of traits at 218. There appeared to be two group tendencies that contributed to the large number of retained traits. First, they processed the full list by dividing the pile and assigning half to each of two smaller groups, which resulted in both small groups retaining more items than they ideally would. However, this process was also employed by Panel 1 and Panel 3, who still managed to reduce the full list to a manageable number.

It seems that the slightly inefficient small-group sorting was compounded by the second tendency of this panel. During the second task, the panel argued in favour of keeping subtle variations in wording since they felt that the differences corresponded to distinct traits. While this is certainly the case, part of the task for the interpretation panels was to choose a best decision among several similar traits. Unfortunately, this panel was resistant to choosing a preference among similar traits, and therefore retained many items. For example, this tendency resulted in a situation where they elected to keep all of: *I am a person who provides a secure social environment*, *I am a person who provides a secure physical environment*, and *I am a person who provides a secure psychological environment*. There were several other similar sets of repeated traits retained by Panel 5 (see Appendix D for a list of all traits retained by each panel).

There was a considerable amount of discussion about how to interpret the word "critical" in the trait *I am a person who adopts a critical approach to the subject*. The panel felt that "critical" could be interpreted as (or replaced with) social justice,

progressive, innovative, or reflective. This divergence of interpretation is similar to the discussion that happened with Panel 1 regarding this trait. That group kept the trait also, but suggested that "critical" should be replaced with a different word. Panel 3 kept this trait without any change.

Also similar to Panel 1, this group had a discussion regarding the interpretation of "short-", "medium-", and "long-term" planning. They suggested that these corresponded to day, unit, and semester planning, which is very similar to the interpretation of Panel 1. However, as with the word "critical" above, this panel elected to keep the original wording of "short-", "medium-", and "long-term".

This panel addressed the issue of interns misrepresenting their skill level similar to the other panels. They suggested that the skills should be worded as "skills I would like to refine in the internship". They felt that this would encourage interns to respond less uniformly to some of the traits. This panel did not refer to interns "lying" on the survey, but acknowledged that some interns may feel pressure to represent their skills in a positive light. However, the panel did not address this issue for mentor teachers completing the survey.

During the second task, this panel assigned many traits to the *instruction*, *planning*, and *assessment* factors. They were very deliberate and consistent about differentiating between skills and behaviours indicative of those three factors. Additionally, they opted to remove *technology* as a separate factor and instead attempted to assign every technology-based item to a different factor. However, they eventually decided that *I am a person who understands the limitation of technology resources* fit better into a specific *technology* factor.

#### 4.1.1.6 Summary

Although each panel brought a unique perspective to this study, some common practices and tendencies can be extrapolated from the individual groups. These commonalities inform the structure and content of the compatibility instrument, and they were considered during the intermediate phase described later in Section 4.2.

The primary area of commonality is tied to the primary task for the interpretation panels. Namely, how were the traits evaluated for inclusion or removal? This has implications for how the survey items should be worded and presented.

All panels argued for simple, clear language on the traits, which included using words that are easily understood, and using phrases that are easily interpreted. Interpretation varied somewhat across the groups and seemed to be strongly tied to the background (education and experience) of the participants. Three panels explicitly stated a preference for action words in the traits. They felt that it was better to focus on external expressions of personality and skills, rather than internal understanding of those skills.

The panels recognized that individuals who complete this survey will have a specific knowledge base. Therefore, items that are too obvious-things that are "just a given" for a teacher-will not generate a spectrum of responses. Additionally, the panels illustrated that traits should not be specific to any subset of respondents. Items should be avoided that relate more closely to a subset of teachers, or that represent skills interns would not be expected to have prior to the internship. This goal is analogous to personality tests, which have shown reliability across age, race, gender, and language (John et al., 2008; McCrae & Costa, 2008). That is, the compatibility instrument should be equally accessible to all potential respondents.

The full list of traits established in Chapter 2 consisted of 522 items. This quantity interfered with the ability of participants to objectively compare and evaluate all items in the list. A few different strategies were used by the panels to deal with this issue. For example, four of the panels split into smaller groups. However, this struggle yielded an interesting situation. Across all groups there seemed to be a desire to fix items, rather than to simply drop those items from consideration, which included changing wording to make a trait more specific, or to improve interpretability of the trait.

The second area of commonality relates to the tendency for respondents to provide dishonest answers. The most common suggestion to resolve this involved changing the structure of the skills sections, which typically made use of a phrase similar to "Skills I would like to refine during my internship are…". While this approach could provide a solution for this problem, the change in structure would require a radically different set of skills items.

Consideration of ideas for addressing dishonest answers leads directly into the third area of commonality for the interpretation panels. All of the panels tended to perceive the traits from the intern's point of view. A primary purpose of the internship is to enable skill development for interns. However, that is not a primary purpose of this compatibility instrument. Mentor teachers will also have areas of particular strength and areas that are still developing. That does not reduce their effectiveness as mentor teachers, but it might affect their compatibility with an intern. The traits that make up the survey should be applicable for both interns and mentors.

## 4.2 Intermediate Phase

During the qualitative phase of this study, the interpretation panels were tasked with guiding the content of the compatibility instrument. The five panels identified 334 unique traits for inclusion in the instrument. Since the final target length for the survey was approximately 50 items, an interpretation of the aggregated panel results was required. Therefore, an intermediate phase for the study was engaged as described in Section 3.2.1. In an exploratory sequential research design, an intermediate phase can be conducted by the researcher to interpret the qualitative results in preparation for the quantitative phase (Creswell & Plano-Clark, 2011). In this study, the intermediate phase was employed to reduce the list of traits retained by the interpretation panels (qualitative phase) to a condensed pilot survey (quantitative phase).

Many of the panels selected items that overlap in meaning, but differ slightly in wording. This section describes the process of reducing the 334 traits identified by the interpretation panels to a list of 100 for use in the pilot study. A list of the traits retained in the qualitative phase, and which interpretation panels retained each trait is presented in Appendix D. A record of the elimination and inclusion of specific items in the intermediate phase can be found in Appendix E. The 100-item pilot survey can be found in Appendix F.

The first, and most straightforward, method for deciding between traits retained by the interpretation panels is to consider how many of the groups agreed on specific items. Using this method, traits retained by all five panels would be given the most weight. That is, those are traits that all five panels agreed were important for assessing

compatibility between interns and mentors. Table 4.2 contains a breakdown of the retained traits by category and the number of panels who retained that trait.

**Table 4.2** Number of traits retained by the interpretation panels

| Panels Agreeing | Categories (Number of Traits) | | | | Total | Proportion |
|---|---|---|---|---|---|---|
| | Personality | Relationship Skills | Applied Skills | Expectations | | |
| 1 | 4 | 31 | 86 | 9 | 130 | 39% |
| 2 | 9 | 33 | 49 | 7 | 98 | 29% |
| 3 | 10 | 19 | 31 | 11 | 71 | 21% |
| 4 | 4 | 3 | 10 | 5 | 22 | 7% |
| 5 | 4 | 0 | 4 | 5 | 13 | 4% |
| Total | 31 | 86 | 180 | 37 | 334 | 100% |
| Proportion | 9% | 26% | 54% | 11% | 100% | |

Only 13 unique items were selected by all five interpretation panels, which corresponded to 4% of all the retained traits. This is an insufficient number to comprise the entirety of the compatibility instrument, and it was considered to disregard too much of what the interpretation panels contributed. If the instrument was expanded to include traits retained by four or five panels, the numbers and proportion were still too low. However, consideration of traits retained by one, two, or three of the panels introduced an additional complicating factor. Among the traits enumerated in Chapter 2, there are several groups of items with similar meaning but slightly different wording. Thus, it was apparent that there were concepts where four or five panels agreed on the inclusion of the concept, but disagreed on the best wording to address that concept.

Therefore, an item could not be removed solely based on how much support it had in the qualitative phase, and it was necessary to consider all the retained traits during the intermediate phase. Three criteria were used to justify elimination of items during this phase. First, some traits addressed a concept already covered by another item. Second,

some traits addressed concepts that did not receive enough support among the five interpretation panels. Finally, some traits addressed issues that fall outside the scope of the internship. When considering multiple traits within these criteria, traits were evaluated based on two considerations. Wording that better fits the short-phrase survey format was preferred. In general, this was realized through a preference for specificity over generality in the language of the trait. If there was not consensus in the qualitative data, deference was given to mentor teacher experience over intern experience. The three elimination criteria are discussed in the following sections.

### 4.2.1 Covered by Another Item

Resolving situations involving similar wording was the most common reason for eliminating items from the 334 traits retained by the interpretation panels. Similar wordings generally highlighted variations on a specific topic. For example, the concept of using appropriate language can be found in five retained traits from the *Communication* and *Professionalism* factors:

1. *I am a person who adjusts vocabulary for my audience* (retained by Panels 1, 3, and 5),
2. *I am a person who uses appropriate language with students* (retained by Panels 1, 4, and 5),
3. *I am a person who adjusts formality for audience* (retained by Panels 1 and 5),
4. *I am a person who uses subject specific vocabulary* (retained by Panel 4),
5. *I am a person who uses professional language* (retained by Panels 3, 4, and 5),

Four of the interpretation panels retained traits that were directly related to language use. While all the traits in this list were considered for use in the pilot study, ultimately

the first one was selected. The justification for this choice is twofold. First, it appeared to most directly relate to the *communication* factor. Second, it seemed to strike a balance between specific and general. The wording is not specific to a particular audience (as in the second trait) or a particular situation (as in the fourth and fifth traits), but it is specific to verbal communication. The third trait in the list also meets the criterion of relating to the *communication* factor and finding a balance between specific and general. However, the first trait was chosen over the third due to greater support among the interpretation panels (it was retained by three panels).

Occasionally, a less supported trait was retained. For example, from the *Planning* factor *I am a person who plans engaging units* (retained by Panels 4 and 5), and *I am a person who plans engaging lessons* (retained by Panels 2 and 5), were eliminated in favour of *I am a person who sequences learning experiences effectively* (retained by Panel 4). In general, this decision was made to better support the short phrase format, and to better address unique skills.

Some traits were eliminated because they conflicted with too many other traits. *I am a person who plans authentic lessons* had the support of both mentor teacher panels. However, it also shares similarities with several traits that were used in the pilot study including:

- *I am a person who sequences learning experiences effectively*,
- *I am a person who plans multiple ways for students to demonstrate knowledge*,
- *I am a person who situates practice within local issues*, and
- *I am a person who incorporates First Nations and Métis perspectives*.

In this situation, the term "authentic" seemed to be too general and open to misinterpretation. The other four traits listed here address aspects of authenticity in specific contexts. Therefore, the specific traits were retained over the general trait.

### 4.2.2 Not Enough Support

Some traits received limited support from the interpretation panels, and were not similar to other retained items. For example, in the *expectations* category only one panel retained *The role of the mentor is friend* and *The role of the intern is friend*. Other panels discussed those traits, but decided to remove them from consideration. Therefore, those traits were eliminated from the pilot study due to lack of support from the panels.

Within the *personality* category, only three traits were retained for the *agreeableness* factor and none of them received much support. These were, *I am a person who has a forgiving nature* (retained by Panels 2 and 5), *I am a person who is generally trusting* (retained by Panels 2 and 5), and *I am a person who likes to cooperate with others* (retained by Panel 4). Strong consideration was given to removing this factor entirely due to lack of support. However, this factor was supported by four panels through traits from other factors, so it was decided to include it in the pilot study. *I am a person who likes to cooperate with others* was eliminated for lack of support, but the other two *agreeableness* traits were retained for the pilot study.

A number of traits proved to be too vague to be useful. For example, *I am a person who shares accountability*, *I am a person who accounts for context*, and *I am a person who incorporates technology* were found to be too general. Often these traits were only retained by one panel. Similar to the decision regarding authentic lessons

described in the previous section, these traits lack specificity, were interpreted very differently by the panels, and thus were eliminated.

### 4.2.3 Out of the Scope

The undergraduate internship is an opportunity for education students to practice teaching skills in a classroom setting. It varies in length among institutions, but is generally between three and six months. Within the system that provided participants for this study, the internship is four months long. During this time, the intern becomes part of the education system and is assigned a variety of responsibilities both inside and outside of the classroom. However, the internship is still a relatively short-term assignment where the intern is closely guided by the mentor teacher. As such, there are a number of professional responsibilities that fall outside the scope of the internship experience. For example, the traits *I am a person who advocates for the profession*, *I am a person who coordinates with school partners*, and *I am a person who aligns professional development with the needs of students* describe actions that an intern would not normally be required to perform. Therefore, these items were eliminated from the pilot study.

Another issue surrounding traits that fall outside the scope of the internship is highlighted by the distinction between *I am person who supports the vision of the school* and *I am a person who supports the mission of the school* identified by Panel 3 (Section 4.1.1.3). In this case the traits do not describe actions outside the scope. Rather, they represent concepts that the intern is unlikely to understand before completing the internship. This justification was used to eliminate traits such as *I am a person who understands educational legislation*, and *I am a person who collaborates in developing*

*educational services*. The interpretation panels expressed a concern that respondents may not be truthful in situations where they are unlikely to understand the trait being described, thus these items were removed from the pilot study.

### 4.3 Quantitative Phase

The quantitative phase of the study involved a pilot survey with 324 respondents. Recall that Sections 4.1 and 4.2 detail the creation process for the pilot survey instrument, which consists of 100 items organized into four categories (see Appendix F). Items in the instrument were presented on a 7-point Likert-type scale running from "Least like me" (1) to "Most like me" (7). The survey instrument included 22 traits pertaining to *personality*, 23 traits pertaining to *relationship skills*, 35 traits pertaining to *applied skills*, and 20 traits pertaining to *expectations*. Most analysis in the quantitative phase was performed within each category separately. That is, factor analysis was performed for the *personality* items separately from the *relationship skills* items.

Respondents in the quantitative phase were students in an undergraduate education program. Approximately half of the students had completed an internship as part of their program, while other half were preparing to enter the internship in the following year. Email invitations were sent to respondents requesting participation in the pilot study. The pilot was deployed online, and responses were anonymous.

One goal of the quantitative phase of this study was a further reduction in the number of items in the compatibility instrument to reach a completion time of approximately five minutes. As described in Section 2.4.3.3, the big five inventory (BFI-44; John, Donahue, & Kentle, 1991) consists of 44 questions and can be completed in 5 minutes (John et al., 2008). The pilot instrument employs a short-phrase item structure

similar to the BFI-44. Based on analysis of the correlation matrices (described in Section 4.3.2) and initial factor analysis results (described in Section 4.3.3), 50 items were removed from the pilot instrument to obtain the final compatibility instrument (described in Section 4.3.4).

The content of the items was addressed and given substantial weight in the qualitative phase of this study, thus removal of items in this phase was based entirely on the needs of factor analysis. The purpose of the quantitative phase was to construct a compatibility instrument with distinct, measurable factors. No consideration was given to the content of the items during this phase.

### 4.3.1 Descriptive Statistics

Prior to conducting a factor analysis, the data were examined to assess completeness of data and deviations from normality. A total of 324 people provided responses for this pilot test. Of these, 13 were entirely incomplete. The remaining 311 responses were used in the analysis. Data were assessed in categories, so partially complete responses were used where applicable. Table 4.3 displays the number of usable responses in each category. There were also partially complete responses for items within the categories. The number of valid responses for each item can be found in Appendix G. The median completion time for the pilot test was 7 min 45 s.

**Table 4.3** Quantitative responses by category

| Category | Responses |
|---|---|
| Personality | 311 |
| Relationship Skills | 311 |
| Applied Skills | 309 |
| Expectations | 299 |

During this analysis, the data were treated as coming from a non-normal population distribution. In general, responses to items on the pilot test were very skewed, particularly within the *expectations* category. Komogorov-Smirnoff tests of normality showed that the responses deviated significantly from the normal distribution for all items. These tests were conducted on the data, and on the variances with the same result.

Descriptive statistics, including bootstrapped means and standard deviations with 95% confidence intervals, and skew and kurtosis results, were conducted and can be found in Appendix G.

### 4.3.2 Assumptions for Factor Analysis

Before conducting a factor analysis, the suitability of the data set should be examined (A. Field, Miles, & Field, 2012). A data set that does not meet the assumptions for suitability could result in strong correlations between factors, leading to indistinct factors. There are four considerations to test for suitability: sample size, sampling adequacy, sufficient correlation between variables, and issues of multicollinearity (A. Field et al., 2012). Due to the deviations from normality in the data, all correlational analysis was conducted using Kendall's tau. Although the calculation of Pearson's r is not sensitive to non-normal data, significance calculations using Pearson's r can exhibit bias in the presence of non-normal data. Kendall's tau was employed to mitigate this potential source of bias.

Sample size in this study was adequate. According to Field (2012), a sample of 300 is sufficient for most factor analyses. With the exception of *expectations* (299), all the categories exceeded 300 respondents. The total responses for each category are listed in Table 4.3 and the total responses for each item can be found in Appendix G.

Sampling adequacy is assessed with the Kaiser-Meyer-Olkin (KMO) measure. KMO results range between zero and one. Values close to zero indicate that partial correlations between the variables are prominent in relation to the sum of all correlations, which would result in unsuitability for factor analysis. Values close to one indicate that there is a clear pattern in the correlations, which can be extracted with factor analysis. All categories had a KMO value well above the minimum threshold of .5. *Personality* (KMO = .79) was the lowest value, while the other categories were greater than .9. The KMO values are listed in table 4.4. Additionally, individual KMO values for the items in the pilot instrument were all greater than .65; also well above the acceptable minimum of .5. KMO values for individual items can be found in Appendix G.

**Table 4.4** KMO, Bartlett, and determinant results by category

| | KMO | Bartlett | Determinant |
|---|---|---|---|
| *Personality* | .79 | $\chi^2(231) = 1422, p < .001$ | .0089971 |
| *Relationship Skills* | .94 | $\chi^2(253) = 2365, p < .001$ | .0003922 |
| *Applied Skills* | .96 | $\chi^2(595) = 4244, p < .001$ | .0000006 |
| *Expectations* | .90 | $\chi^2(190) = 1939, p < .001$ | .0012615 |

Bartlett's test was used to assess correlation between variables. This test determines if a correlation matrix is significantly different from the identity matrix. If the test is significant, then there is a sufficient level of correlation between the items for factor analysis to be successful. Bartlett's test was significant for $p < .001$ for all categories. Results from Bartlett's test can be found in Table 4.4.

Multicollinearity is an issue when there is too much correlation between items, resulting in non-distinct factors during factor analysis. Factor analysis requires a level of correlation between items (measured by Bartlett's test), but not too much correlation between items (measured by the determinant of the correlation matrix). If there is not

enough correlation, then factors cannot be reliably extracted from the data. If there is too much correlation then the extracted factors will not be distinct.

Multicollinearity can be an issue where there are a couple of variables that correlate very strongly, or when there are many variables that are more weakly correlated with each other, but combine to create an issue of multicollinearity. The determinant of the correlation matrix was employed as a statistic to determine if multicollinearity was an issue for this data set. If the determinant is greater than 0.00001, then multicollinearity is unlikely to present a problem for factor analysis (A. Field et al., 2012). Table 4.4 lists the determinants for each category in the pilot instrument. For *personality*, *relationship skills*, and *expectations*, the determinant is greater than the required value. However, there is a potential issue with multicollinearity for *applied skills* ($det = 0.0000006$).

The common solution when dealing with multicollinearity is to remove the offending items from the factor analysis. This is analogous to removing unrepresentative outliers from a data set to more accurately calculate a mean. In both situations, including all the data results in a misleading statistic. Outliers can skew the calculation of the mean, which creates a statistic that does not represent the data. Similarly, items that contribute to multicollinearity negatively influence the distinctiveness and clarity of the extracted factors, which results in a factor analysis that does not represent the underlying factor structure in the data.

An examination of the correlation matrix for the *applied skills* category showed no small groups of items with strong correlations, which implied that there was a more complex interaction involving several items that correlated weakly with many other items. Additionally, there were items from *applied skills* that correlated with many items

in *relationship skills*, and vice versa. Using this justification, three items were removed from *relationship skills* and 11 items were removed from *applied skills*. After removal of these items, the determinant for *relationship skills* was 0.0018, and the determinant for *applied skills* was 0.0004. Both values are larger than the accepted minimum of 0.00001, indicating that the problem of multicollinearity had been eliminated. The items removed in this step are listed in Table 4.5.

**Table 4.5** Items eliminated to correct for multicollinearity

| Relationship Skills | |
|---|---|
| I am a person who… | |
| | Can justify my teaching decisions |
| | Can respond effectively to students |
| | Exhibits engaging instruction |
| **Applied Skills** | |
| I am a person who… | |
| | Anticipates obstacles to learning |
| | Designs assessments to support learning goals |
| | Develops strategies to deal with behaviour issues |
| | Establishes appropriate classroom procedures |
| | Involves students in setting classroom standards |
| | Links content to existing knowledge |
| | Monitors student learning to adapt instruction |
| | Plans multiple ways for students to demonstrate knowledge |
| | Provides clear directions and explanations |
| | Provides effective feedback |
| | Sequences learning experiences effectively |

The correlation matrices highlighted an additional issue with items in the skills categories. There were some items that did not correlate with any other items. Factor analysis requires some correlation between items, so lack of correlation is justification for removal of items from the instrument. Four items were removed from *relationship skills* and two items were removed from *applied skills* based on this justification. The removed items are listed in table 4.6. The correlation matrices are reproduced in Appendix H.

**Table 4.6** Items removed for lack of correlation

| Relationship Skills | |
|---|---|
| I am a person who… | |
| | Improves my own written language skills |
| | Is observant |
| | Is punctual |
| | Promotes anti-oppressive education |
| **Applied Skills** | |
| I am a person who… | |
| | Plans lessons daily |
| | Understands the limitations of technology resources |

### 4.3.3 Preliminary Factor Analysis

Before conducting a factor analysis, it is necessary to identify the number of distinct factors present in the data. This number is frequently based on an examination of the scree plot, or analysis of the eigenvalues for the data set. These methods are quite subjective and often suggest a conflicting number of factors (A. Field et al., 2012). This study used parallel analysis (Finch & French, 2015; Horn, 1965) to determine the number of factors to retain for each category.

After removing items based on the correlation matrices, the pilot instrument consisted of 80 items. Of those 80 items, 22 were in the *personality* category, 16 were in *relationship skills*, 22 were in *applied skills*, and 20 were in *expectations*. Based on that set of items, parallel analysis suggested that five factors should be retained for the *personality* category, four factors for *relationship skills*, four factors for *applied skills*, and four factors for *expectations*.

Principal axis factoring (PAF) was selected as the method of factor extraction, as it does not assume a normal distribution among the items. Oblique factor rotation was performed using the promax method. As this was a preliminary factor analysis, the

content of the factors was not considered at this time, and factors were not assigned names. The results of the factor analysis can be found in Table 4.7.

**Table 4.7** Initial factor analysis

| Personality[a] | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
|---|---|---|---|---|---|
| Tends to be quiet | **0.84** | 0.10 | 0.08 | 0.10 | -0.06 |
| Is sometimes shy, inhibited | **0.73** | 0.02 | -0.01 | -0.08 | 0.06 |
| Is outgoing, sociable | **-0.68** | -0.02 | 0.00 | -0.05 | **0.43** |
| Is full of energy | **-0.50** | 0.20 | 0.01 | -0.01 | **0.35** |
| Gets nervous easily | **0.46** | -0.02 | -0.07 | **-0.34** | 0.21 |
| Has an assertive personality | **-0.39** | 0.25 | 0.13 | 0.02 | -0.16 |
| Is curious about many different things | 0.08 | **0.73** | -0.10 | 0.12 | -0.06 |
| Is original, comes up with new ideas | -0.14 | **0.57** | 0.00 | 0.01 | 0.06 |
| Likes to reflect, play with ideas | -0.04 | **0.51** | -0.02 | 0.11 | 0.06 |
| Values artistic, aesthetic experiences | 0.18 | **0.47** | -0.07 | -0.04 | 0.11 |
| Tends to be disorganized | 0.04 | 0.28 | **-0.67** | 0.03 | -0.02 |
| Makes plans and follows through with them | 0.11 | 0.04 | **0.55** | 0.06 | 0.14 |
| Does a thorough job | 0.05 | **0.42** | **0.54** | -0.13 | -0.02 |
| Is easily distracted | 0.03 | 0.19 | **-0.51** | -0.14 | 0.10 |
| Perseveres until the task is finished | 0.15 | **0.30** | **0.42** | 0.00 | -0.06 |
| Prefers work that is routine | 0.02 | -0.05 | **0.31** | -0.23 | 0.13 |
| Is relaxed, handles stress well | 0.04 | 0.06 | -0.03 | **0.79** | 0.07 |
| Remains calm in tense situations | 0.05 | 0.21 | 0.00 | **0.68** | 0.01 |
| Can be moody | 0.06 | 0.18 | -0.13 | **-0.44** | **-0.36** |
| Generates a lot of enthusiasm | **-0.50** | 0.11 | -0.05 | -0.10 | **0.59** |
| Is generally trusting | 0.01 | -0.11 | 0.17 | 0.01 | **0.55** |
| Has a forgiving nature | 0.18 | 0.08 | -0.08 | 0.22 | **0.51** |
| Eigenvalues | 2.71 | 2.00 | 1.67 | 1.63 | 1.56 |
| % of variance | 12.32 | 9.09 | 7.59 | 7.41 | 7.09 |

| Relationship Skills[a] | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|---|---|---|---|---|
| Is sensitive to individual diversity | **0.81** | -0.18 | -0.15 | **0.31** |
| Understands exceptionality | **0.73** | -0.10 | 0.06 | -0.09 |
| Addresses educational inequalities | **0.57** | 0.09 | -0.14 | 0.32 |
| Practices cooperative conflict resolution | **0.57** | 0.21 | -0.02 | -0.02 |
| Can use body language effectively | **0.48** | 0.13 | 0.20 | -0.19 |
| Supports whole-student growth | **0.43** | **0.36** | -0.08 | 0.04 |
| Builds positive relationships | -0.15 | **0.87** | -0.06 | 0.03 |
| Has a positive attitude | 0.02 | **0.83** | -0.19 | -0.01 |
| Actively seeks professional growth | 0.00 | **0.44** | 0.08 | 0.21 |
| Adjusts vocabulary for audience | 0.29 | **0.41** | -0.03 | -0.02 |
| Responds positively to constructive criticism | 0.10 | **0.33** | 0.28 | -0.10 |
| Adjusts practices based on reflection | -0.05 | **0.32** | 0.28 | 0.19 |

| | | | | |
|---|---|---|---|---|
| Understands the teacher role | 0.21 | 0.28 | 0.20 | -0.06 |
| Links theory and practice | -0.11 | -0.12 | **0.91** | 0.13 |
| Has an established philosophy of education | **0.33** | -0.23 | **0.51** | 0.07 |
| Reflects on my personal biases to understand cultural variations | 0.00 | 0.07 | 0.24 | **0.69** |
| Eigenvalues | 2.80 | 2.49 | 1.46 | 1.05 |
| % of variance | 17.50 | 15.56 | 9.13 | 6.56 |

| Applied Skills[a] | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|---|---|---|---|---|
| Is not afraid to take risks | **0.77** | -0.02 | -0.09 | -0.08 |
| Applies content to real world problems | **0.71** | -0.17 | 0.03 | 0.22 |
| Situates practice within local issues | **0.61** | -0.09 | -0.20 | **0.48** |
| Communicates expected outcomes to students | **0.58** | -0.14 | 0.23 | 0.06 |
| Adapts to a changing environment | **0.53** | 0.19 | 0.01 | -0.04 |
| Shows initiative beyond the classroom | **0.42** | 0.17 | 0.25 | -0.22 |
| Uses a range of instruction techniques | **0.37** | 0.23 | 0.20 | -0.09 |
| Uses subject specific methods of inquiry | **0.35** | 0.20 | -0.09 | 0.18 |
| Stimulates discussion to probe understanding | 0.26 | 0.23 | 0.10 | 0.04 |
| Uses technology to meet learning needs | -0.13 | **0.87** | -0.19 | 0.08 |
| Models ethical use of digital information | 0.03 | **0.63** | -0.15 | 0.16 |
| Provides multiple representations of concepts | 0.13 | **0.49** | 0.07 | 0.03 |
| Maintains appropriate records | -0.11 | **0.47** | 0.31 | 0.03 |
| Aligns learning experiences with curriculum goals | 0.28 | **0.40** | 0.14 | -0.21 |
| Can recognize student misconceptions | 0.23 | 0.27 | 0.08 | 0.15 |
| Encourages parent participation | -0.03 | -0.25 | **0.82** | 0.14 |
| Ensures participation of all students | 0.09 | -0.14 | **0.64** | 0.12 |
| Organizes the physical environment | -0.11 | 0.26 | **0.51** | 0.02 |
| Collaborates with school professionals to facilitate learning | 0.07 | 0.18 | **0.48** | -0.06 |
| Establishes cultural links to the subject | -0.05 | 0.06 | 0.18 | **0.75** |
| Incorporates First Nations & Métis perspectives | -0.10 | 0.24 | 0.10 | **0.57** |
| Guides students to assess their own learning | 0.10 | 0.05 | 0.23 | **0.39** |
| Eigenvalues | 3.22 | 2.62 | 2.35 | 1.88 |
| % of variance | 14.64 | 11.91 | 10.68 | 8.55 |

| Expectations | Factor 1 | Factor 2 | Factor 3 | Factor 4 |
|---|---|---|---|---|
| Skill development[b] | **0.81** | -0.05 | 0.08 | -0.11 |
| Pedagogical development[b] | **0.75** | -0.09 | 0.09 | -0.02 |
| Teacher preparation[b] | **0.67** | -0.13 | 0.04 | 0.08 |
| Professional Socialization[b] | **0.51** | **0.34** | -0.17 | 0.05 |
| To provide respect[c] | **0.39** | 0.12 | -0.02 | 0.22 |

| | | | | |
|---|---|---|---|---|
| To be flexible[c] | **0.33** | 0.04 | 0.20 | 0.16 |
| Observer[c] | 0.02 | **0.70** | -0.02 | -0.14 |
| Trouble shooter[d] | -0.27 | **0.58** | 0.13 | 0.10 |
| Leader[d] | -0.08 | **0.53** | 0.07 | 0.11 |
| Emotional development[b] | **0.51** | **0.52** | -0.12 | -0.16 |
| To provide feedback[c] | 0.13 | **0.51** | -0.07 | 0.10 |
| Scaffolder[d] | -0.23 | **0.49** | 0.02 | **0.41** |
| Instructional coach[d] | -0.02 | **0.49** | **0.42** | -0.14 |
| Source of knowledge[c] | 0.08 | **0.45** | -0.06 | 0.12 |
| To provide feedback[d] | 0.10 | -0.04 | **0.71** | 0.06 |
| Advisor[d] | 0.01 | 0.18 | **0.68** | -0.16 |
| Guide[d] | 0.04 | **0.32** | **0.49** | -0.02 |
| Willingness to learn[c] | 0.28 | -0.25 | **0.41** | 0.24 |
| Collaborator[c] | 0.07 | 0.01 | -0.10 | **0.76** |
| Collaborator[d] | -0.13 | 0.20 | 0.07 | **0.68** |
| Eigenvalues | 2.77 | 2.94 | 1.85 | 1.59 |
| % of variance | 13.85 | 14.70 | 9.25 | 7.95 |

[a]Items in this section are prefaced with "I am a person who…"
[b]Prefaced with "The goal of the internship is…"
[c]Prefaced with "The role of the intern is…"
[d]Prefaced with "The role of the mentor is…"

Preliminary factor analysis results were employed to identify items that loaded onto multiple factors, and items that loaded weakly onto all factors. Since target length for the final instrument was 50 items, items with a factor loading score less than 0.5, and items that loaded equally onto multiple factors were removed at this stage. Again, as described earlier, no consideration was given to the content of the items removed during this stage, since the goal of the quantitative phase was a compatibility instrument with distinct factors. The list of removed items is provided in Table 4.8.

**Table 4.8** Items removed due to minimal factor loadings

| Personality |
|---|
| I am a person who… |
| Gets nervous easily |
| Has an assertive personality |
| Values artistic, aesthetic experiences |
| Perseveres until the task is finished |
| Prefers work that is routine |
| Can be moody |

| Relationship Skills | |
|---|---|
| I am a person who… | Can use body language effectively |
| | Supports whole-student growth |
| | Actively seeks professional growth |
| | Adjusts vocabulary for audience |
| | Responds positively to constructive criticism |
| | Adjusts practices based on reflection |
| | Understands the teacher role |
| **Applied Skills** | |
| I am a person who… | |
| | Shows initiative beyond the classroom |
| | Uses a range of instruction techniques |
| | Uses subject specific methods of inquiry |
| | Stimulates discussion to probe understanding |
| | Provides multiple representations of concepts |
| | Maintains appropriate records |
| | Aligns learning experiences with curriculum goals |
| | Can recognize student misconceptions |
| | Collaborates with school professionals to facilitate learning |
| | Guides students to assess their own learning |
| **Expectations** | |
| The role of the intern is… | |
| | To provide respect |
| | To be flexible |
| | Source of knowledge |
| | Willingness to learn |
| The role of the mentor is… | |
| | Scaffolder |
| | Instructional coach |
| | Guide |

### 4.3.4 Fitting the Final Model

After removing items as described in Section 4.3.2 and 4.3.3, 50 items remained of the 100-item pilot survey. This data set was again tested for its suitability for factor analysis (Table 4.9). When compared to the entire set of 100 items, the KMO values were slightly lower. However, they are still well above the commonly accepted minimum of 0.5 (A. Field et al., 2012). Like the results for the 100-item pilot survey

(Table 4.4), the results of Bartlett's test were significant at $p < .001$ for all categories. The determinant results are considerably stronger than those reported in Table 4.4, suggesting that there were no issues with multicollinearity for this data. Parallel analysis was employed again to determine the number of factors to extract.

**Table 4.9** KMO, Bartlett, and determinant results for the final data set

| | KMO | Bartlett | Determinant |
|---|---|---|---|
| *Personality* | .76 | $\chi^2(120) = 990, p < .001$ | .03847 |
| *Relationship Skills* | .86 | $\chi^2(36) = 722, p < .001$ | .09452 |
| *Applied Skills* | .89 | $\chi^2(66) = 982, p < .001$ | .03915 |
| *Expectations* | .84 | $\chi^2(78) = 1058, p < .001$ | .02698 |

The *personality* category consisted of 16 items, and five factors were extracted. Items in this category formed a subset of items in the Big Five Inventory created by John et al. (1991). The assignment of traits to factors reported here is very similar to that reported by John et al., which has been extensively tested and is useful as a benchmark for the trustworthiness of the remaining categories. Results of this factor analysis are presented in Table 4.10.

In the model presented by John et al. (1991), five factors were identified: *extraversion*, *openness*, *conscientiousness*, *neuroticism*, and *agreeableness*. This study identified the same five factors. The only significant deviation from John et al. pertains to the trait *I am a person who does a thorough job*. John et al. placed this trait with *conscientiousness*, while in this study it loaded primarily onto *openness* (0.59) with a secondary loading onto *conscientiousness* (-0.44). A similar situation was found with the trait *I am a person who generates a lot of enthusiasm*. This trait loaded most strongly onto *extraversion* (-0.52), which agrees with the findings of John et al. However, it had a

secondary loading onto *agreeableness* with a comparable magnitude (0.45) to *extraversion*.

**Table 4.10** Factor analysis of the *personality* category[a]

| Item | Extraversion | Openness | Conscientiousness | Neuroticism | Agreeableness |
|---|---|---|---|---|---|
| Tends to be quiet | **0.82** | 0.09 | -0.02 | 0.01 | 0.14 |
| Is sometimes shy, inhibited | **0.71** | -0.02 | 0.07 | -0.10 | 0.23 |
| Is outgoing, sociable | **-0.70** | -0.05 | -0.01 | 0.00 | 0.31 |
| Generates a lot of enthusiasm | **-0.52** | 0.11 | 0.04 | -0.07 | **0.45** |
| Is full of energy | **-0.51** | 0.22 | 0.00 | 0.00 | 0.23 |
| Is curious about many different things | 0.11 | **0.72** | 0.19 | 0.05 | -0.06 |
| Is original, comes up with new ideas | -0.14 | **0.60** | 0.03 | -0.03 | -0.05 |
| Does a thorough job | 0.11 | **0.59** | **-0.44** | -0.16 | -0.01 |
| Likes to reflect, play with ideas | -0.02 | **0.57** | 0.09 | 0.07 | -0.01 |
| Tends to be disorganized | 0.06 | 0.19 | **0.72** | 0.00 | -0.04 |
| Is easily distracted | 0.04 | 0.06 | **0.53** | -0.11 | 0.13 |
| Makes plans and follows through with them | 0.09 | 0.09 | **-0.49** | 0.08 | 0.20 |
| Is relaxed, handles stress well | -0.02 | -0.05 | -0.01 | **0.86** | 0.06 |
| Remains calm in tense situations | 0.00 | 0.15 | -0.02 | **0.65** | -0.02 |
| Is generally trusting | -0.01 | -0.13 | -0.15 | -0.02 | **0.61** |
| Has a forgiving nature | 0.12 | 0.00 | 0.11 | 0.16 | **0.54** |
| Eigenvalues | 2.33 | 1.67 | 1.32 | 1.28 | 1.18 |
| % of variance | 14.56 | 10.44 | 8.25 | 8.00 | 7.38 |

[a]Items are prefaced with "I am a person who…"

The factor loadings for *extraversion*, *conscientiousness*, and *neuroticism* are reversed to the standard definition of those terms. That is, a trait pertaining positively to *extraversion* such as *I am a person who is outgoing, sociable* loaded negatively on the factor (-0.70), while a trait pertaining negatively to *extraversion* such as *I am a person who tends to be quiet* loaded positively on the factor (0.82). A similar phenomenon was found for the traits that loaded onto *conscientiousness* and *neuroticism*. The direction of the loadings is a cosmetic difference and does not alter the content of those factors.

Therefore, the standard terms used to describe the big five personality factors will be used throughout the remainder of this document. Overall, the results presented here agree strongly, in terms of the definition of factors, with the results of other studies measuring the big five personality model (John et al., 2008).

The *relationship skills* category consisted of nine items, and four factors were extracted: *diversity and equity*, *temperament*, *theoretical foundations*, and *reflection*. Results of this factor analysis are listed in Table 4.11. The factors in this category were entirely distinct. There were no items with secondary loadings as there were in the *personality* category.

**Table 4.11** Factor analysis for the *relationship skills* category[a]

| Item | Diversity & Equity | Temperament | Theoretical Foundations | Reflection |
|---|---|---|---|---|
| Addresses educational inequalities | **0.77** | -0.02 | -0.18 | 0.19 |
| Is sensitive to individual diversity | **0.74** | -0.10 | -0.03 | 0.13 |
| Understands exceptionality | **0.58** | 0.04 | 0.19 | -0.20 |
| Practices cooperative conflict resolution | **0.52** | 0.21 | 0.16 | -0.13 |
| Has a positive attitude | 0.02 | **0.99** | -0.16 | -0.02 |
| Builds positive relationships | -0.05 | **0.58** | 0.10 | 0.11 |
| Has an established philosophy of education | -0.03 | -0.15 | **0.96** | 0.00 |
| Links theory and practice | 0.01 | 0.05 | **0.46** | 0.20 |
| Reflects on my personal biases to understand cultural variations | 0.11 | 0.00 | 0.02 | **0.85** |
| Eigenvalues | 1.86 | 1.32 | 1.18 | 0.97 |
| % of variance | 20.67 | 14.67 | 13.11 | 10.78 |

[a]Items are prefaced with "I am a person who…"

The *diversity and equity* factor pertained to individual differences and abilities, inequalities in the education system, and approaches to conflict resolution, and it was the most prominent factor in the *relationship skills* category. Four of the nine items loaded

onto *diversity and equity*. *Reflection* consisted of just one item: *I am a person who reflects on my personal biases to understand cultural variations*. In content, this item is similar to some of the items comprising *diversity and equity*, however it very clearly loaded onto its own factor (0.85) rather than onto *diversity and equity* (0.11).

The factors *temperament* and *theoretical foundations*, each consisted of two items. *Temperament* measured positivity for individual attitude and interpersonal interactions. *Theoretical foundations* addressed skills related to the application of theory to practical situations and the formation of a philosophical stance.

**Table 4.12** Factor analysis for the *applied skills* category[a]

| Item | Instruction | Cultural Collaboration | Participation | Technology |
|---|---|---|---|---|
| Applies content to real world problems | **0.80** | 0.11 | -0.01 | -0.14 |
| Is not afraid to take risks | **0.72** | -0.20 | -0.05 | 0.11 |
| Situates practice within local issues | **0.60** | **0.35** | -0.12 | -0.07 |
| Communicates expected outcomes to students | **0.59** | -0.01 | 0.18 | -0.08 |
| Adapts to a changing environment | **0.53** | -0.11 | 0.11 | 0.18 |
| Incorporates First Nations & Métis perspectives | -0.07 | **0.78** | 0.03 | 0.09 |
| Establishes cultural links to the subject | 0.08 | **0.70** | 0.11 | -0.01 |
| Encourages parent participation | -0.02 | 0.00 | **0.76** | -0.07 |
| Ensures participation of all students | 0.03 | 0.12 | **0.66** | -0.09 |
| Organizes the physical environment | -0.02 | -0.02 | **0.47** | 0.26 |
| Uses technology to meet learning needs | -0.09 | 0.03 | -0.06 | **0.87** |
| Models ethical use of digital information | 0.13 | 0.16 | -0.06 | **0.47** |
| Eigenvalues | 2.24 | 1.49 | 1.37 | 1.11 |
| % of variance | 18.67 | 12.42 | 11.42 | 9.25 |

[a]Items are prefaced with "I am a person who…"

The *applied skills* category consisted of 12 items, and four factors were extracted: *instruction*, *cultural collaboration*, *participation*, and *technology*. The results of this factor analysis are listed in Table 4.12. The factors in this category were entirely distinct

with one exception. The item *I am a person who situates practice within local issues* had a primary loading on *instruction* (0.60) and a secondary loading on *cultural collaboration* (0.35).

*Instruction* pertained to skills used within the classroom. It was the most prominent factor in *applied skills*. Five of the 12 items in *applied skills* loaded onto *instruction*. *Cultural collaboration* consisted of two traits, and addressed skills related to cultural inclusivity, with a specific connection to First Nations and Métis culture. *Participation* related to skills that encourage parents and students to become involved in the educational process, and consisted of three items. *Technology* consisted of two items, and dealt with responsible and effective use of digital resources.

The *expectations* category consisted of 13 items, and four factors were extracted: *internship goal*, *emotional support*, *collaboration*, and *professional growth*. The results of this factor analysis are listed in Table 4.13. Like the *personality* category, factors in *expectations* were distinct with two exceptions. The item *The goal of the internship is emotional development* had a primary loading on *emotional support* (0.58), and a secondary loading on *internship goal* (0.42). The item *The goal of the internship is professional socialization* had a primary loading on *internship goal* (0.41), and a secondary loading on *emotional support* (0.37). These loadings were very close in magnitude.

Items within the *expectations* category include three prefixes. This is a departure from the other categories where the sole prefix is *I am a person who…*. The prefixes in *expectations* are *The goal of the internship is…*, *The role of the intern is…*, and *The role of the mentor is…*. *The goal of the internship is emotional development* and *The goal of*

*the internship is professional socialization* are the only items with the prefix *The goal of the internship is…* that loaded onto a factor other than *internship goal*. Items with the role prefixes factored according to content rather than prefix. It seems that the prefix *The goal of the internship is…* had more influence on factorization than the content of the individual items.

**Table 4.13** Factor analysis for the *expectations* category

| Item | Internship Goal | Emotional Support | Collaboration | Professional Growth |
|---|---|---|---|---|
| Skill development[a] | **0.84** | -0.03 | -0.04 | 0.10 |
| Pedagogical development[a] | **0.76** | -0.07 | 0.00 | 0.11 |
| Teacher preparation[a] | **0.64** | -0.11 | 0.15 | 0.06 |
| Professional Socialization[a] | **0.41** | **0.37** | 0.10 | -0.17 |
| Observer[b] | -0.06 | **0.76** | -0.16 | 0.01 |
| Emotional development[a] | **0.42** | **0.58** | -0.14 | -0.12 |
| Trouble shooter[c] | -0.26 | **0.55** | 0.07 | 0.15 |
| Leader[c] | -0.12 | **0.49** | 0.18 | 0.00 |
| To provide feedback[b] | 0.07 | **0.47** | 0.10 | 0.00 |
| Collaborator[b] | 0.08 | -0.12 | **0.85** | -0.04 |
| Collaborator[c] | -0.10 | 0.10 | **0.69** | 0.09 |
| To provide feedback[c] | 0.16 | -0.04 | 0.04 | **0.77** |
| Advisor[c] | 0.07 | 0.19 | -0.09 | **0.58** |
| Eigenvalues | 2.22 | 1.88 | 1.32 | 1.07 |
| % of variance | 17.08 | 14.46 | 10.15 | 8.23 |

[a]Prefaced with "The goal of the internship is…"
[b]Prefaced with "The role of the intern is…"
[c]Prefaced with "The role of the mentor is…"

*Internship goal* pertained to the perceived purpose of the internship experience for individuals, and consisted of four items. The point of view of the intern was more prominent for items in this factor, than for any other items in the compatibility instrument. That is, these items seem to more obviously address goals for interns than

goals for mentors. *Collaboration* consisted of two identical items for the intern and mentor perspective.

*Emotional support* and *professional growth* contained an unexpected split of items in *expectations*. The item *The role of the intern is to provide feedback* loaded onto *emotional support* (0.47), while the item *The role of the mentor is to provide feedback* loaded onto *professional growth* (0.58). This distinction could be an indication of the different perspectives of interns and mentors. However, the sample for this factor analysis did not include any mentor teachers, so the distinction could simply be an artefact of a sample that included only interns.

### 4.4 Summary

This chapter presented the results of this mixed methods study. An initial list of 522 potential compatibility items was compiled from the literature. The qualitative phase involved five interpretation panels that reduced this initial list to 322 items. An intermediate phase considered patterns and similarities among the items retained by the interpretation panels, and formed a 100-item pilot instrument. The quantitative phase deployed the pilot instrument to 324 respondents. Results from the quantitative phase were used to reduce the 100-item pilot instrument to a final 50-item compatibility instrument.

The final instrument resulting from these phases measures 17 factors in four categories (Appendix I). The *personality* category employs 16 items to measure *extraversion*, *openness*, *conscientiousness*, *neuroticism*, and *agreeableness*. The *relationship skills* category measures *diversity and equity*, *temperament*, *theoretical foundations*, and *reflection* with nine items. The *applied skills* category measures

*instruction*, *cultural collaboration*, *participation*, and *technology* with 12 items. Finally, *expectations* employs 13 items to measure *internship goal*, *emotional support*, *collaboration*, and *professional growth*.

# CHAPTER 5

# DISCUSSION

The primary purpose of this study was to develop a compatibility instrument for predicting a successful intern-mentor relationship. This instrument was developed through the participation of practicing interns and mentors, and was refined based on a large pilot study. The secondary purpose of this study was to gain insight into the ways in which *personality*, *skills*, and *expectations* intersect within the intern-mentor relationship. This purpose was addressed through consideration of the content of the compatibility instrument and its construction, and through comparison of the findings of this study with the literature.

The application of the results of the study to the first three research questions are presented in Section 5.1. The theoretical framework and the last two research questions are discussed in Section 5.2. Implications of the findings are presented in Section 5.3, followed by limitations of the study in Section 5.4, and methodological reflections in Section 5.5. Future research directions and applications are discussed in Section 5.6, and a summary of the findings is presented in Section 5.7.

## 5.1 Discussion of Results

This section describes the contribution of the results to the first three research questions. Those questions are:

1. What traits are most likely to describe a successful internship match?
2. How do those traits group together into measurable factors?

3. How can the results from 1 and 2 be combined to create a compatibility instrument that attains the highest coverage of those factors in the smallest number of questions?

The alignment of the phases of this study to the research questions is presented in Figure 5.1. Question 1 was addressed only through the qualitative and intermediate phases, and Question 3 was addressed only in the quantitative phase. All three phases of this study provided support for Question 2. Question 4 and Question 5 pertain to the compatibility instrument in the broader context of the theoretical framework, and are addressed in Section 5.2.

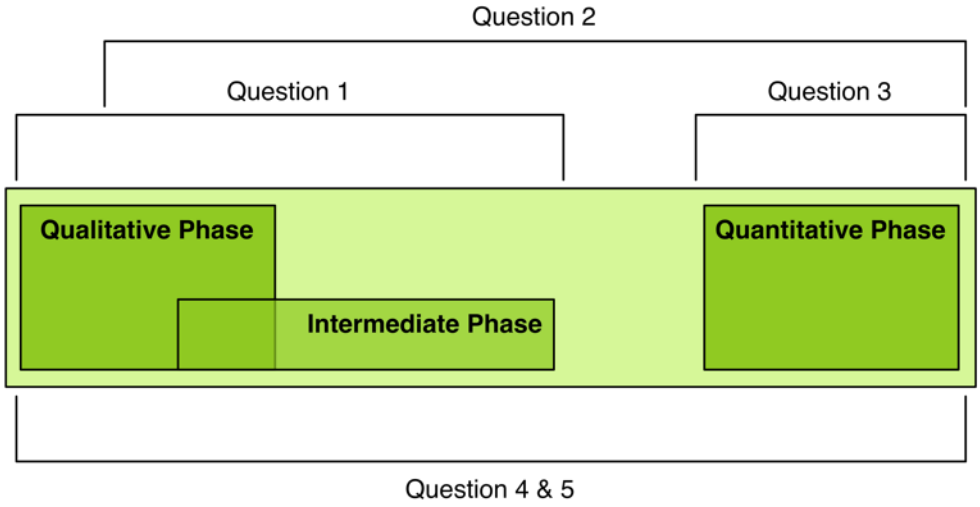


**Figure 5.1** Research questions and research phases

The qualitative phase employed interpretation panels to identify traits pertinent to compatibility, and to assign those traits to factors. Recall that the interpretation panels were given two tasks that corresponded to the first two research questions (Section 4.1.1). For the first task the panels were asked to refine the full list of traits created in Chapter 2 (Appendix C). Their goal was to reduce that list by evaluating traits for relevance to a

compatibility survey. For the second task the panels were asked to assign the retained traits to factors.

The relevance of the qualitative and intermediate results to the research questions is assessed directly and indirectly in the following sections. Direct assessment involved consideration of the conclusions drawn by the interpretation panels. Recall that interpretation panels differ from focus groups in their purpose (see Section 3.1.3). The result of conducting an interpretation panel is the conclusion drawn by the panel, not the discussion during the panel (Noonan, 2002). Therefore, direct assessment of the interpretation panel results involved a consideration of which traits the panels retained, and which traits they did not; and to which factors the panels assigned traits. The assignment of traits to factors among the interpretation panels was less decisive than anticipated. This seemed to be due, in part, to limitations of people when performing this task, and will be addressed in Section 5.1.2.1.

The initial list of traits was very large, and all interpretation panels experienced difficulty when reducing that list. Additionally, the conclusions drawn by the panels became divergent since different panels retained different traits from the initial list. Therefore, an indirect assessment of the panel results was required to address the research questions. Indirect assessment required a review of commonalities and trends among the panels, and an interpretation of why traits were retained and why they were assigned to certain factors.

The quantitative phase employed factor analysis, which directly addressed Question 2. Additionally, results from the quantitative phase were used to construct the final compatibility instrument, which was designed to directly address Question 3.

Although individual items were removed from the instrument during the quantitative phase, the removal of those items was solely to facilitate the identification of factors. Consideration of which traits should comprise the compatibility instrument (Question 1) was the primary focus of the qualitative and intermediate phases.

### 5.1.1 Traits Contributing to Compatibility (Question 1)

The first research question was addressed through the qualitative and intermediate phases. In the qualitative phase, the interpretation panels were presented with an initial list of traits as identified in Chapter 2 (see Appendix C). Five interpretation panels worked independently to refine that initial list of 522 traits. Although each panel significantly reduced this number, when taken in aggregate the panels still retained 334 unique traits. The full list of traits retained by the interpretation panels is reproduced in Appendix D. The intermediate phase used the conclusions drawn by the interpretation panels, and the discussion within the panels to identify similar items and trends among the panel results. This process examined the 334 unique items retained by the panels, and refined that list to 100 items for use in the quantitative phase.

This section includes a discussion of the processes used in creating the 100-item pilot survey, and related tendencies and issues observed during the qualitative phase. This section is organized according to issues of interpretation (Section 5.1.1.1), need for accommodating the points of view of both interns and mentors on the survey (Section 5.1.1.2), and discernment of the value of including multiple items pertaining to similar traits (Section 5.1.1.3).

#### 5.1.1.1 Issues of Interpretation

As the interpretation panels discussed whether to retain certain traits, issues of interpretation became visible. This challenge was noted in three different ways. First, the wording of traits proved problematic when some members of the panels misunderstood or misinterpreted specific words. Simple, unambiguous language reduces the chance of misinterpretation for survey items (Hinkin, 1998). Second, differences in interpretation led to differences in categorization for the interpretation panels. To be accurate, reliable, and valid traits should only measure one thing, since variations in interpretation could lead to unpredictable variations in responses (Mikulincer, Shaver, Cooper, & Larsen, 2015). Finally, the panels felt that difficulties with interpretation would lead people to respond dishonestly on the survey.

Interpretation of specific words was an issue among individuals on the panels. As described earlier, Panel 1 had a lengthy discussion about how to interpret the word "critical" (Section 4.1.1). Similarly, members of Panel 3 had difficulty understanding the words "maladjustments" and "ameliorates" (Section 4.1.3). Hinkin (1998) made the claim that "statements should be simple, and as short as possible, and the language used should be familiar to target respondents" (pp. 107–108). A variety of people with a variety of backgrounds will complete this compatibility instrument, potentially resulting in inconsistent interpretation of traits among all respondents. Therefore, it is important to employ simple, direct language when designing this compatibility instrument.

Instances of categorization also proved to be problematic at different points in the research. The interpretation panels used word cues to assign traits to factors, and differences in interpretation led to differences in categorization when panels disagreed

about the focus of certain traits. For example, the trait *I am a person who plans multiple ways for students to demonstrate knowledge* was retained by all five panels. Three panels interpreted that item as an aspect of the *planning* factor, while the other two panels argued that *planning* was secondary to the trait and instead felt that knowledge demonstration was an aspect of *assessment*. Differences in categorization showed that the trait *I am a person who plans multiple ways for students to demonstrate knowledge* does not cleanly measure one ability. Divergent categorization of traits happened in several instances during the qualitative phase, which presented a challenge during the intermediate phase. A primary goal of survey items is uniform interpretability, to improve the reliability of the factors measured by the items (Hinkin, 1998). The divergent categorization observed among the interpretation panels indicates the potential for divergent interpretation of items during the pilot survey.

Lastly, this research identified that the use of the assessment of skills for compatibility purposes may inadvertently result in respondents misrepresenting their abilities. This phenomenon was particularly prevalent in the *skills* sections of the compatibility instrument. During the quantitative phase, responses in *applied skills*, *relationship skills*, and *expectations* showed considerable skew. A previous compatibility instrument showed similar results (Solheim et al., 2015). As partial explanation to this phenomenon, it was noted that some interpretation panels felt that respondents who were unsure how to interpret a trait would default to saying "yes I have that skill". A behaviour such as this would result in skewed, dishonest responses on the survey. Challenged by this, the panels consistently suggested traits that employed external manifestations of skills over internal manifestations of skills. The panels felt that

respondents would be more honest when assessing things they actually did, rather than things they thought about doing. In addition, as with the first example above, simple direct language would partially combat the problem of misrepresentation of skills.

To improve uniform interpretation, traits in the compatibility instrument should employ simple direct language, they should have consistent categorization among respondents, and they should focus on externalization of skills over internalization of skills. These findings support claims made by Hinkin (1998), and Green and Frantom (2015) regarding item content and structure for survey development.

#### 5.1.1.2 Accommodating Interns and Mentors

The internship is designed to benefit interns and to accommodate their growth as new teachers (Smith, 2010; University of Alberta, n.d.; University of British Columbia, 2014). While necessary, this focus can downplay the importance of a compatible relationship (Patrick, 2013), the role that mentors play in the internship (Hobson et al., 2009), and the benefits that mentors gain from participating in the internship (Ferrier-Kerr, 2009; Roland & Beckford, 2010). Intern-mentor compatibility matching necessitates that information is collected from both parties, thus the application of the compatibility instrument requires responses from both interns and mentors. Discussions within the interpretation panels focused overwhelmingly on interns, and only rarely on mentors. Discussions also revealed that, despite being informed that both interns and mentors would complete the survey, the panels consistently viewed the compatibility instrument as something that only interns would complete. This focus on interns was prevalent regardless of whether the panel was comprised of interns or comprised of mentors.

Because information is required from both the mentor and the intern, traits on this survey should be easily interpretable from the point of view of both parties. That is, selected traits should focus on compatibility, not on skill development. A focus on compatibility for this instrument may be somewhat at odds with the measurement of the skills categories as they are currently measured. The undergraduate education internship provides a venue for students to practice teaching skills in a classroom setting, and at the end of the internship these skills are evaluated by the mentor teacher. However, this compatibility instrument is not an evaluation form for interns, and it is not intended to be a menu that mentors can use to choose an intern. Both concerns were prominently observed among all five of the interpretation panels.

The panels tended to focus on traits corresponding to skills that interns "should" or "shouldn't" have, rather than skills that are important for compatibility. For example, traits retained by both panels of mentor teachers included:

- *I am a person who has knowledge of curriculum expectations*;
- *I am a person who anticipates obstacles to learning*, and;
- *I am a person who plans multiple ways for students to demonstrate knowledge*.

These skills seem to be less descriptive of intern-mentor compatibility, and more descriptive of intern competency. As described in Section 4.1.1, the panels consistently viewed the compatibility survey as something that only interns would complete.

This tendency towards competency over compatibility among the panels highlights an area that will require additional study, and it is likely that an alternative source for skills items is needed. Intern assessment forms necessarily have a focus on intern competency. As such, the content of the skills traits seemed to make it difficult for

the interpretation panels to shift their focus from intern competency, to intern-mentor compatibility. Additionally, it seemed to create a blind spot for the panels with respect to the way mentors would respond to survey items. Since both parties are equally important to the assessment of compatibility, additional research is needed to better understand the role of teaching skills for intern-mentor compatibility.

#### 5.1.1.3 Inclusion of Similar Traits

Similar items can make a survey more robust. For example, the personality assessment used in this study measures five factors with 44 survey items (John et al., 1991). So rather than asking an individual if they are extraverted, the survey uses eight similar items that measure some aspect of extraversion. Costa and McCrae (1992; 2008) used this technique to measure specific facets within the five personality factors (see Table 2.2), although that level of measurement necessitated an instrument that contained 240 items. Gosling et al. (2003) presented a counter-argument. They felt that some constructs, such as extraversion, are well understood and can therefore be measured with just one question. Gosling et al. used that approach to design a personality survey that measures the five personality factors with just 10 items.

The examples of that research provided direction when considering the context of the current study. For example, instead of using the trait *I am a person who reflects on my own competencies*, there may be value in retaining several traits about behaviours contributing to reflective practice, which could result in a more accurate measurement of the *reflection* factor for an individual. This argument requires confidence that there actually is a *reflection* factor that should be measured for this compatibility instrument.

The interpretation panels were tasked with evaluating between similar traits during the first task in the qualitative phase (see Section 4.1.1). When considering concepts that were addressed by multiple traits, most groups tried to find the trait that was the most clearly worded, or that best encapsulated the concept. They felt that respondents would not be able to differentiate between subtle distinctions with any reliability. Conversely, Panel 5 placed greater value on subtle variations since those variations would provide a more complete picture of the respondent. Using this approach, Panel 5 retained many items from the initial list (218 of the initial 522). The different approaches of the interpretation panels echo the different approaches of Costa and McCrae (1992), and Gosling et al. (2003). While both methods for survey development have merit, a focus of this study was the creation of a compatibility instrument that provided coverage of factors with a limited number of traits (research question 3). As such, the strategy employed by Panel 5 was less helpful for reducing the initial list of traits.

There is a potential interpretational drawback to including similar items on this compatibility instrument. As explained above, Panel 5 retained several similar items during the first task (Section 4.1.5). There were distinctions between the traits that they retained, but in many cases those distinctions were either minor or unclear. For example, two of the traits retained by Panel 5 were *I am a person who guides students to assess their own thinking*, and *I am a person who guides students to assess their own learning*. The distinction between these traits is quite minor. Panel 5 also retained the traits *I am a person who establishes cultural links to the subject*, and *I am a person who situates practice within cultural issues*. These two traits describe different actions, but the distinction between them could be unclear for many respondents.

This study subscribes to the survey design approach of John et al. (1991), which presents a balance between the profligacy of Costa and McCrae (1992), and the parsimony of Gosling et al. (2003). Multiple, similar items have value when they have meaning that is distinguishable without overlapping. This survey design approach was followed during the intermediate phase to justify the removal and retention of items while preparing the pilot version of the compatibility instrument.

### 5.1.2 Factors Contributing to Compatibility (Question 2)

The second research question addressed the identification of factors that contribute to compatibility between interns and mentors. These factors are described by specific traits or behaviours, and they represent variables that indicate proficiencies or personality attributes. For example, factors identified in Chapter 2 include *extraversion* (from the *personality* category), *communication* (from *relationship skills*), and *instruction* (from *applied skills*). Recall from the definition in Section 1.7 that factors are measured by aggregating responses to individual items on the compatibility survey. For example, the factor *reflection* might be measured by five or six individual traits.

This question was addressed through the qualitative phase and the quantitative phase. In the qualitative phase, factors were assessed through the second task assigned to the interpretation panels. After reducing the list of traits, panels were asked to assign those traits to factors. As a starting point the panels were provided with the factors identified in Chapter 2, which are reproduced here in Table 5.1. They were then encouraged to suggest new factors or eliminate existing factors as needed. Unfortunately, the panels did not respond to the encouragement to alter the provided factors. Instead, all panels conformed very closely to the factors identified in Table 5.1.

**Table 5.1** Initial factor list presented to qualitative participants

| | Skills | | |
|---|---|---|---|
| Personality | Relationship | Applied | Expectations |
| Openness | Diversity and equity | Planning | Role of mentor |
| Conscientiousness | Reflection | Instruction | Role of intern |
| Extraversion | Communication | Assessment | Goal of internship |
| Agreeableness | Professionalism | Content Knowledge | |
| Neuroticism | | Classroom Management | |
| | | Meta-teaching activities | |
| | | Technology | |

Factor analysis uses correlations between items to identify groups of items that tend to be answered in a similar way. If there is sufficient correlation between the items in a group, that group gets identified as a factor. Through the quantitative phase of the study, factors were extracted from a large dataset using exploratory factor analysis. These factors were considerably different from the factors identified by the interpretation panels. However, some of the tendencies of the panels are reflected in factors found in the final compatibility instrument. Factor analysis is independent of human input, and no consideration was given to the content of individual items during the quantitative phase.

Section 5.1.2.1 discusses the tendencies that the interpretation panels had when manually identifying factors from traits. Section 5.1.2.2 examines the factors identified in the *personality* category. Sections 5.1.2.3 discusses factors identified in the *relationship skills* and *applied skills* categories. Finally, Section 5.1.2.4 describes the factors identified in the *expectations* category.

#### 5.1.2.1 The Problem with Humans

The interpretation panels used various techniques to categorize traits into factors. For Panel 2 and Panel 4 the categorization of traits started during the first task, while they were evaluating traits for elimination from the survey. Panel 2 categorized traits as a

strategy for coping with the large volume of traits initially provided (see Section 4.1.1.2). Panel 4 used a model identified by one of the participants to assist with eliminating items (see Section 4.1.1.4). In both cases, the initial categories (factors) identified by Panel 2 and Panel 4 did not match with the factors identified in Table 5.1. However, when these panels moved to the second task, they abandoned their initial categorization to conform to the suggested factors (Table 5.1).

It is unclear exactly why these interpretation panels abandoned their categorizations, but some reasonable speculations are possible. Interpretation panels require a facilitator to guide the discussion, and to provide context and explanation of the data presented to the panel. I served that role during the qualitative phase of this study, so when the initial factors were placed on the wall, Panel 2 and Panel 4 interpreted those factors as "correct" since they were provided by the facilitator of the interpretation panel. Additionally, panels were long and participants tended to be tired by the end of the session. It is possible that the panels took the path of least resistance to complete the second task, simply so that the task could be completed. These speculations imply that an alternative design in the qualitative phase may have improved the interpretation panel results. Reflections on the design of the qualitative phase are presented later in Section 5.5.

The interpretation panels extensively discussed the content of items, and tended to use word cues when assigning traits to factors. For example, Panel 2 used the word "designs" to indicate *planning*, regardless of whether the design was for an assessment, or a teaching strategy, or a lesson plan. Other panels read the word "assessment" and put

the trait into the *assessment* factor, regardless of whether it was about designing, or implementing, or using accommodations in an assessment.

There appears to be an inherent unreliability in asking humans to assign items to factors. However, human perception and expectation validate the use of "common sense" in constructing personality and skills scales. Although there is evidence that common sense often should not be trusted (Dietvorst, Simmons, & Massey, 2015; Watts, 2011), it fills in gaps and makes connections between the information received about a situation and pre-conceived conceptualizations of that situation (Kottke & Kimura, 2009). The quantitative analysis provided a more definitive description of the factors present in the compatibility instrument; however, the factorization performed by the interpretation panels provided some insight into the way that respondents will likely interpret items within those factors.

#### 5.1.2.2 Factors Contributing to Personality

Within the *personality* category, there was a tendency among all the interpretation panels to downplay the *agreeableness* factor. Conversely, every panel gave extra weight to *extraversion*. The prevalence of traits describing *extraversion* was a predictable outcome in this study. *Extraversion* has been linked to mentor participation (Niehoff, 2006), and academic success (O'Connor & Paunonen, 2007). Additionally, it is associated with friendliness and impressions of similarity (John et al., 2008; Wortman et al., 2014); thus *extraversion* was expected to feature prominently in the *personality* category of the compatibility instrument.

The other three personality factors (*conscientiousness*, *openness*, and *neuroticism*) received a fair amount of support from some panels, but not from others. Evaluation

during the internship is not structured in the same way as exams or assignments, but there is a parallel to academic assessments such as group work and presentations, and formative assessments such as class participation. Personality plays a significant role in classroom performance (Rothstein, Paunonen, Rush, & King, 1994), team performance and internship training (Kappe & van der Flier, 2012), and, on-the-job and skills training (Kappe & van der Flier, 2010). Traits corresponding to *extroversion* and *conscientiousness* were the strongest contributors to good performance on applied and group projects. Menges (2015) found that compatibility on *openness* led to more career-related support, while compatibility on *openness* and *conscientiousness* led to more psychosocial support.

All the big-five *personality* factors were retained by the interpretation panels during the second task. However, the assignment of traits to factors found in the panel results frequently differed from the assignment of traits to factors identified by John et al. (1991). For example, six unique traits were assigned to the *agreeableness* factor indicating that participants thought there was value in being agreeable. Of these, only two were from the *agreeableness* scale specified in the BFI-44 (John et al., 1991). The other traits assigned to *agreeableness* were: *I am a person who can be moody* (from *neuroticism*); *I am a person who has an assertive personality* (from *extraversion*); *I am a person who generates a lot of enthusiasm* (from *extraversion*); and *I am a person who adapts to a changing environment* (from *instruction* in the *applied skills* category). One other *agreeableness* trait (*I am a person who is generally trusting*), was kept by two panels and assigned to the *openness* factor. This tendency among the interpretation

panels suggests that the participants in the context of this study may understand agreeableness differently than its description within the five-factor model.

It was unexpected for the factor *agreeableness* to be downplayed so heavily by the interpretation panels, as *agreeableness* has been shown to be a strong indicator of collaborative success and perceptions of similarity (John et al., 2008; Wortman et al., 2014). More weight was given to being outgoing (*extraversion*) and handling stress well (*neuroticism*). This distinction perhaps speaks to the shorter nature of an internship, as opposed to friendship or employment. It seems to indicate that the participants were more interested in work interactions than interpersonal interactions; that the short term and transitory nature of the internship makes rapport in a work setting more important than the ability to form a long-term relationship.

For the *skills* and *expectations* categories, it was anticipated that there would be many differences in assignment of traits to factors between the initial list identified in Chapter 2 and the lists generated by the interpretation panels. Recall that the traits and factors for the *skills* and *expectations* categories were compiled for the literature review from various sources, and did not exist in that form previously; while the instrument that provided the traits and factors for the *personality* category came from one source that has been well tested for validity and reliability (John et al., 1991). Additionally, the five factor personality model underlying that instrument has been extensively tested over two decades of research (Gosling et al., 2003; John et al., 2008). Therefore, there was some expectation that the interpretation panels would be more accurate when assigning items to factors for the *personality* category, than for the other categories.

The factor analysis showed an assignment of traits to factors consistent with John et al. (1991). The only exception was the trait *I am a person who does a thorough job*, which belongs to the factor *conscientiousness* according to John et al. (1991). In this study that trait loaded more strongly onto *openness* (0.59), than *conscientiousness* (-0.44), which suggests that there is an overlap between the measurement of *openness* and *conscientiousness* among the traits used in the pilot study. In practice, there are often minor differences in the way that traits load onto the factors in the big five model; however, those differences tend to vary in strength and arrangement from study to study (Anusic, Schimmack, Pinkus, & Lockwood, 2009). Therefore, it is reasonable to assume that the deviation regarding *I am a person who does a thorough job* is a peculiarity of the respondents in this study, and to treat that trait as part of *conscientiousness* in the final compatibility instrument.

Recall that the factorization performed by the interpretation panels diverged from the factors described by John et al. (1991), particularly with respect to *agreeableness*, implying that individuals in the context of this study interpreted *agreeableness* differently than it is understood in the personality literature. However, the factor analysis performed in the quantitative phase agreed strongly with the factors described by John et al., which implies that the factors in the *personality* category are robust to variations in interpretation. This provides support for the factors identified in the other categories of the personality instrument, which do not have the benefit of comparison to an existing body of literature.

#### 5.1.2.3 Factors Contributing to Skills

As with *personality*, all the factors identified in Chapter 2 within the *applied skills* and *relationship skills* categories were retained by the interpretation panels. These factors reflected the appraisal characteristics found on intern assessment forms (University of Toronto, 2015). In contrast, factors identified during the quantitative phase diverged from the factors identified in the qualitative phase. Table 5.2 contains the factors for *relationship skills* and *applied skills* from the qualitative and quantitative phases. This section discusses tendencies of the interpretation panels with respect to the identification of skills factors, and describes how those tendencies are reflected in the quantitative results.

**Table 5.2** Qualitative and quantitative factors for the skills categories

| Relationship Skills | |
|---|---|
| Qualitative | Quantitative |
| Diversity and equity | Diversity and equity |
| Reflection | Temperament |
| Communication | Theoretical Foundations |
| Professionalism | Reflections |

| Applied Skills | |
|---|---|
| Qualitative | Quantitative |
| Planning | Instructions |
| Instruction | Cultural Collaboration |
| Assessment | Participation |
| Content Knowledge | Technology |
| Classroom Management | |
| Meta-teaching activities | |
| Technology | |

In the qualitative phase, there was discussion within some panels regarding the inclusion and interpretation of factors. This was particularly evident for the *technology* and *meta-teaching* factors, and for the overlap between the *instruction*, *planning*, and *assessment* factors. The inclusion of a *technology* factor seemed to result in the most

debate among the interpretation panels. Panel 1 did not assign any traits to the *technology* factor, and Panel 5 deliberately removed it from consideration. In both cases the participants did not argue that skill with technology was unimportant; rather, they felt that technology did not warrant its own factor. Among all groups it was common for *technology* traits identified in Chapter 2 to be assigned to other factors. For example, Panel 3 and Panel 5 assigned the trait *I am a person who models ethical use of digital information* to the *instruction* factor. The trait *I am a person who understands the limitations of technology resources* was less easily assigned for Panel 5. They felt that it did not belong with the other factors, and eventually conceded that there was a need for a distinct *technology* factor in the compatibility instrument.

As mentioned above, a *technology* factor was identified in the quantitative phase. It consisted of two items from the *applied skills* category: *I am a person who uses technology to meet learning needs*, and *I am a person who models ethical use of digital information*. *Technology* was the only factor from the skills categories that translated clearly from the initial categorization of traits in Chapter 2. The two items comprising the *technology* factor were initially categorized as *technology* traits, and there are no *technology* traits that loaded onto other factors in the final compatibility instrument.

The *meta-teaching* factor was understood differently for each interpretation panel. As with *technology*, many of the *meta-teaching* traits were assigned to different factors. Unlike *technology*, there was also considerable movement of traits into the *meta-teaching* activities factor. Panel 1 was unique in not assigning any traits to this factor. That group kept many *meta-teaching* traits, but primarily assigned them to the *diversity and equity*, and *professionalism* factors instead. The divergence within the *meta-teaching* factor was

an unsurprising development, as many of the *meta-teaching* traits deal with more abstract behaviours and competencies than traits belonging to other factors within the *applied skills* category.

The *meta-teaching* factor was initially identified as a factor for items that did not fit neatly anywhere else within *applied skills*. Consequently, it had a broader definition than other factors, which is reflected in the discussion of the interpretation panels. The panels had difficulty trying to assign traits to a *meta-teaching* factor, and there was little agreement among the panels regarding the composition of the factor. Since *meta-teaching* did not have the same level of focus as the other factors, it was expected to disappear as a distinct factor during the quantitative phase. Two items from the original *meta-teaching* factor were retained in the final instrument: *I am a person who situates my practice within local issues*, and *I am a person who encouraged parent participation*. These items loaded onto the *instruction* and *participation* factors respectively.

In Chapter 2, the overlap in the way that intern assessment forms describe *instruction*, *planning*, and *assessment* was emphasized. Some of the reviewed intern assessment forms treated these as separate categories (University of Alberta, n.d.; University of Arizona, 2014), while others grouped the categories together (Michigan State University, 2015; University of Toronto, 2015). At that time, it was decided that *instruction*, *planning*, and *assessment* would be treated separately during the qualitative phase. The interpretation panels highlighted the overlap of these factors during the second task, particularly in relation to *planning*. There was little agreement among the groups about whether planning traits related to instruction belong in a *planning* factor or

in an *instruction* factor. There was a similar disagreement regarding *planning* and *assessment* as described at the start of Section 4.1.2.

The overlap of these factors is highlighted in the quantitative phase. An *instruction* factor was identified in the quantitative results, consisting of five traits initiating from five different qualitative factors (Table 5.3). This *instruction* factor describes the practice of teaching, and contains an emphasis on grounding instruction in real-world issues through the traits *I am a person who applies content to real-world problems* and *I am a person who situates practice within local issues*.

**Table 5.3** Traits corresponding to the quantitative factor *instruction*

| Trait[a] | Qualitative Factor |
|---|---|
| Applies content to real-world problems | Content Knowledge |
| Is not afraid to take risks | Planning |
| Situates practice within local issues | Meta-teaching activities |
| Communicates expected outcomes to students | Assessment |
| Adapts to a changing environment | Classroom Management |

[a]Items are prefaced with "I am a person who…"

Among the *applied skills* factors identified in the quantitative phase, *instruction* and *technology* had conceptually close parallels in the qualitative phase. The other two *applied skills* factors amalgamated factors from the qualitative phase into new constructs. *Cultural collaboration* contains two traits that address First Nations and Métis content and perspectives. *Participation* describes the inclusion of people through the community and through the physical organization of the environment.

There was little disagreement among the interpretation panels regarding factors in the *relationship skills* category. The role of *relationship skills* is frequently addressed in internship research (Abell et al., 1995; Bradbury & Koballa, 2008; Eller et al., 2014; Ferrier-Kerr, 2009; Hetherington, 2014; Izadinia, 2015b; Patrick, 2013; Roland &

Beckford, 2010). There is some variation in what these skills are; however, common factors include communication, feedback, and support. The interpretation panels echoed previous research in this area. There was a tendency among the panels to categorize many traits under the heading of "being professional", which included addressing educational inequalities, employing clear and prompt communication strategies, and being a reflective practitioner. Consequently, more traits were assigned to the *professionalism* factor than to the other factors during the qualitative phase.

Factor analysis identified four factors corresponding to *relationship skills* in the quantitative phase (*diversity and equity*, *temperament*, *theoretical foundations*, and *reflection*). Of these, *diversity and equity* and *reflection* closely resemble factors identified by the interpretation panels. Three of the *diversity and equity* traits were assigned to that factor by two panels. Similarly, the single trait measuring *reflection* was supported by two panels in the qualitative phase. The other two factors identified in the quantitative phase do not have a consistent counterpart in the qualitative phase.

#### 5.1.2.4 Factors Contributing to Expectations

The *expectations* category is structured differently than the other categories. The lead-in phrases used in *expectations* are distinct, and the focus of the items is different. Three factors were initially identified in this category (*role of the intern*, *role of the mentor*, and *goal of the internship*), and it was expected that these factors would be confirmed in the quantitative phase. The interpretation panels did not assign items in this category to factors. Instead, they simply discussed each item for inclusion in, or exclusion from the compatibility instrument. This approach was used because there is

considerable overlap between the *role of the intern* and *role of the mentor* factors, and because the lead-in phrases are distinct.

Interestingly, factor analysis did not confirm the initial three factors. Instead four factors were identified (*internship goal*, *relationship development*, *collaboration*, and *intern development*). *Internship goal* matches closely with *the goal of the internship* as initially defined; however, the other factors in this category represent new combinations of traits. A comparison of the traits from the qualitative phase with the traits from the quantitative phase can be found in Table 5.4. Additional research is required to confirm these factors, and to assess alternative approaches to measuring expectations within the compatibility instrument.

**Table 5.4** Qualitative and quantitative factors corresponding to the *expectations* category

| Expectations | |
|---|---|
| Qualitative | Quantitative |
| Goal of the internship | Internship goal |
| Role of the intern | Relationship development |
| Role of the mentor | Collaboration |
| | Intern development |

### 5.1.3 The Compatibility Instrument (Question 3)

The third research question concerns the creation of an instrument that achieves coverage of the factors identified in Question 2 with a minimal set of the items identified in Question 1. The resulting compatibility instrument was the primary goal of this study. This section will discuss the created survey, and some considerations for deploying it to measure compatibility.

Several items were removed from the survey in both the intermediate phase and in the quantitative phase. The target for the final length of the compatibility instrument was 40–60 items. This number was based on the BFI-44 developed by John et al. (1991).

That personality instrument has been extensively tested; it contains 44 items and takes approximately five minutes to complete (John et al., 2008). Following the qualitative phase, the compatibility instrument contained 334 items. The intermediate phase reduced that number to 100, primarily by combining items based on similarities in content. During the quantitative phase 50 additional items were removed because of over-correlation between many items, and because they did not sufficiently contribute to the factors. The final instrument consists of 50 items measuring 17 factors.

As explained in the previous section, factors in the *personality* category correspond very closely with factors identified by John et al. (1991), with the exception of *I am a person who does a thorough job*. That trait loaded more strongly onto *openness* than it did onto *conscientiousness*. The conformity between these findings and John et al. relates positively to the trustworthiness of factors in the other categories.

*Relationship skills* and *applied skills* each measure four factors. These were identified as separate categories based on a review of the literature (see Section 2.3); however, there was no quantitative evidence to support the existence of two distinct skills categories. Among the items in the final compatibility instrument, there was more correlation between items in the same category than there was between items in different categories, implying that there are two distinct categories corresponding to skills.

*Expectations* measures four categories. As described in the previous section, the identification of these factors was unexpected. There may be value in using the three initial factors (*role of the intern*, *role of the mentor*, and *goal of the internship*) to measure compatibility rather than using the new factors. This decision requires additional research.

The *expectations* category refers to expectations of the relationship between the intern and the mentor. This is a valuable metric for compatibility purposes, but there is an unexplored area for compatibility that involves expectations of the internship itself. Examination of intern-mentor relationships often uncovers the importance of expectations regarding the role of the intern and the mentor as well as the goals of the internship (Bradbury & Koballa, 2008; Ferrier-Kerr, 2009; Hastings, 2010; He, 2009; Patrick, 2013; Trent, 2013). Moreover, misalignment of intern skill levels with mentor expectations (and vice versa) can result in unsuccessful internship experiences (Andrew et al., 1996; Smith, 2010; Stobaugh & Tassell, 2011).

It is possible that 50 items are insufficient to measure 17 factors. Additionally, there is an imbalance in the number of items that loaded onto each of the factors. For example, consider *relationship development* (measured by five factors) and *reflection* (measured by one factor). There is evidence that factors can be accurately measured with one or two items (Gosling et al., 2003). However, Gosling et al. (2003) recommended at least two items per factor. It would be beneficial to conduct additional research focused on providing even coverage of the factors in the compatibility instrument.

### 5.2 Reconceptualization of the Theoretical Framework

This section will discuss the theoretical framework with respect to this study, and address the final two research questions. These questions are:

4. What theoretical and practical intersections exist between categories and factors?
5. What theoretical and practical advancements can be achieved from the intersections of categories, factors, and traits?

Research questions 4 and 5 address the impact and applicability of the compatibility instrument in a more general context; specifically, how the instrument informs the relationships in the theoretical framework presented in Section 2.7.

### 5.2.1 Theoretical Framework

The theoretical framework described in Section 2.7 provided the organizational structure for the compatibility instrument. It is reproduced here in Figure 5.2. The framework consists of four categories: *personality*, *relationship skills*, *applied skills*, and *expectations*. It was derived from the literature and it is characterized by three key intersections, which correspond to different aspects of compatibility. These intersections are initial compatibility, ongoing compatibility, and skill development. Corresponding intersections were identified in the final compatibility instrument.

The process of creating the compatibility instrument restricted the general theoretical framework to a specific set of measurable traits, which is comparable to measurement tools for the five-factor model of personality that consist of 10 (TIPI; Gosling et al., 2003), 44 (BFI-44; John et al., 1991), and 240 items (NEO-PI-R; Costa & McCrae, 1992; 2008). Longer personality instruments provide a more complete measure of the five-factor model. For example, the NEO-PI-R measures the five personality factors, and measures facets within those factors. The BFI-44 measures the five personality factors, but trades away facet measurement in favour of a shorter completion time. The compatibility instrument developed in this study placed short completion time over and above full coverage of the model by design. Consequently, the compatibility instrument only covers a subset of each category in the theoretical model.

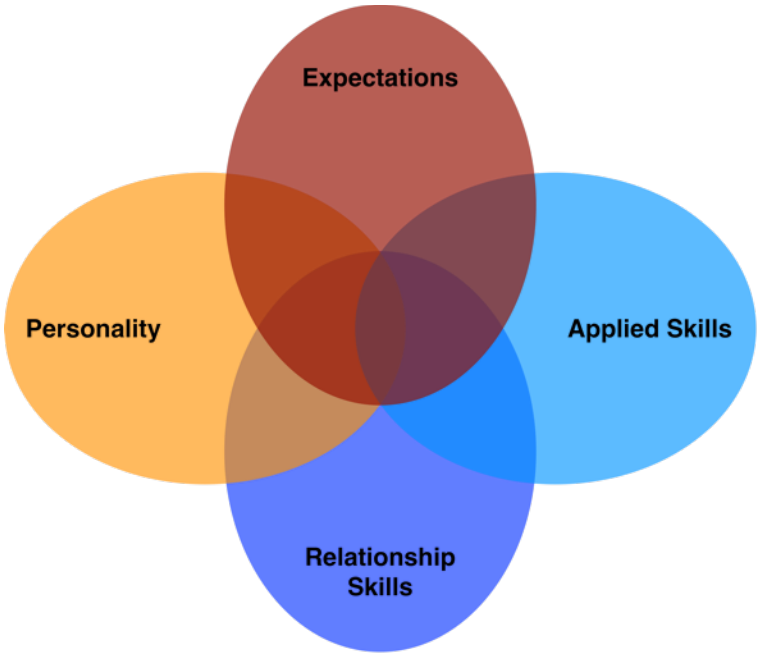


**Figure 5.2** Theoretical framework

The compatibility instrument provides evidence for the four distinct categories present in the theoretical model. Personality is well established as a category; there is a wealth of research regarding competing personality models (John et al., 2008; Saucier, 1994), there are multiple measurement tools for each model (Costa & McCrae, 1992; John et al., 1991; Saucier, 1994), and personality is assumed to be basic to the physiological and psychological make-up of a person (Costa & McCrae, 1992; H. J. Eysenck, 1992). Expectations are important in that explicit and compatible expectations are a component of compatibility (Andrew et al., 1996; Bradbury & Koballa, 2008; Stobaugh & Tassell, 2011). However, it is possible that expectations are simply an aspect of the category for which they are measuring expectations. That is, expectations of extraversion are an aspect of *personality*, and expectations of *instructional skill* are an aspect of *applied skills*. Conceptually, it seems worthwhile to maintain expectations as a separate category; however, additional research could help to confirm this decision.

The existence of two distinct skills categories is perhaps more controversial. Initially one skills category was considered, but a conceptual division was identified based on the reviewed intern assessment forms. There was a distinction between higher-level, abstract *relationship skills* such as reflection and diversity and equity, and lower-level *applied skills* such as instructional strategies and technological fluency. Measurement of *relationship skills* is similar to measurement of *personality* attributes, where concrete behaviours (like being outgoing) are used to assess the presence of an abstract construct (like extraversion).

In the quantitative results, there was correlational separation between *relationship skills* and *applied skills*. That is, items from one category correlated with items from the same category, but not with items from the other category. Additionally, content of the items in *relationship skills* describes more abstract constructs than content of the items in *applied skills*. The traits *I am a person who builds positive relationships* (from *relationship skills*), and *I am a person who encourages parent participation* (from *applied skills*) highlight the distinctions and the overlap between the two categories. Both traits seem to refer to communication, indicating that there is an unidentified factor that is common to both categories. However, the approach of each trait is very different. The first item refers to a general behaviour that could be applicable to all personal and professional communication, while the second item targets a specific behaviour applicable to teachers in the classroom. As with *expectations*, additional research could help to confirm the existence and definition of two skills categories.

It is necessary here to acknowledge some weaknesses regarding the conclusions in the previous paragraphs. In some ways, the identification of four categories is self-

fulfilling since the theoretical framework informed the structure of the compatibility instrument. The resulting instrument supports four distinct categories, in part, because it was designed to do that. Additionally, items were removed from the compatibility instrument to address an issue with multicollinearity (see Section 4.3.2). This removal had a side effect of catalyzing the removal of several items that correlated between *relationship skills* and *applied skills*, and it accentuated the distinction between those categories. However, based on the results of this study, it seems reasonable to provisionally confirm the existence of four categories in the theoretical framework.

### 5.2.2 Intersections between categories (Question 4)

Key intersections in the theoretical framework were assumed in this study to represent important aspects of compatibility. That is, compatibility between the intern and mentor is not determined solely by *personality* attributes or *expectations*. Rather, compatibility is determined by the way that those *personality* attributes interact with *expectations* and *skills* development. As discussed in the previous section, a survey instrument measures a subset of a larger construct (such as *personality*). Consequently, the compatibility instrument developed in this study will only measure a subset of the larger theoretical intersections present in the theoretical framework.

The first intersection identified in Chapter 2 represents initial compatibility, and is primarily assessed through the intersection of *personality* and *expectations* (Figure 5.3a). This intersection characterizes a connection between the intern and mentor that can provide a foundation to protect the relationship against future conflicts. Conflict in the internship is common (Hastings, 2004; Patrick, 2013), and a strong relationship can improve the internship experience (Ferrier-Kerr, 2009). There appears to be an

intersection in the compatibility instrument between *personality* (*agreeableness*), *expectations* (*relationship development*), and *relationship skills* (*temperament*) that measures indicators of initial compatibility.

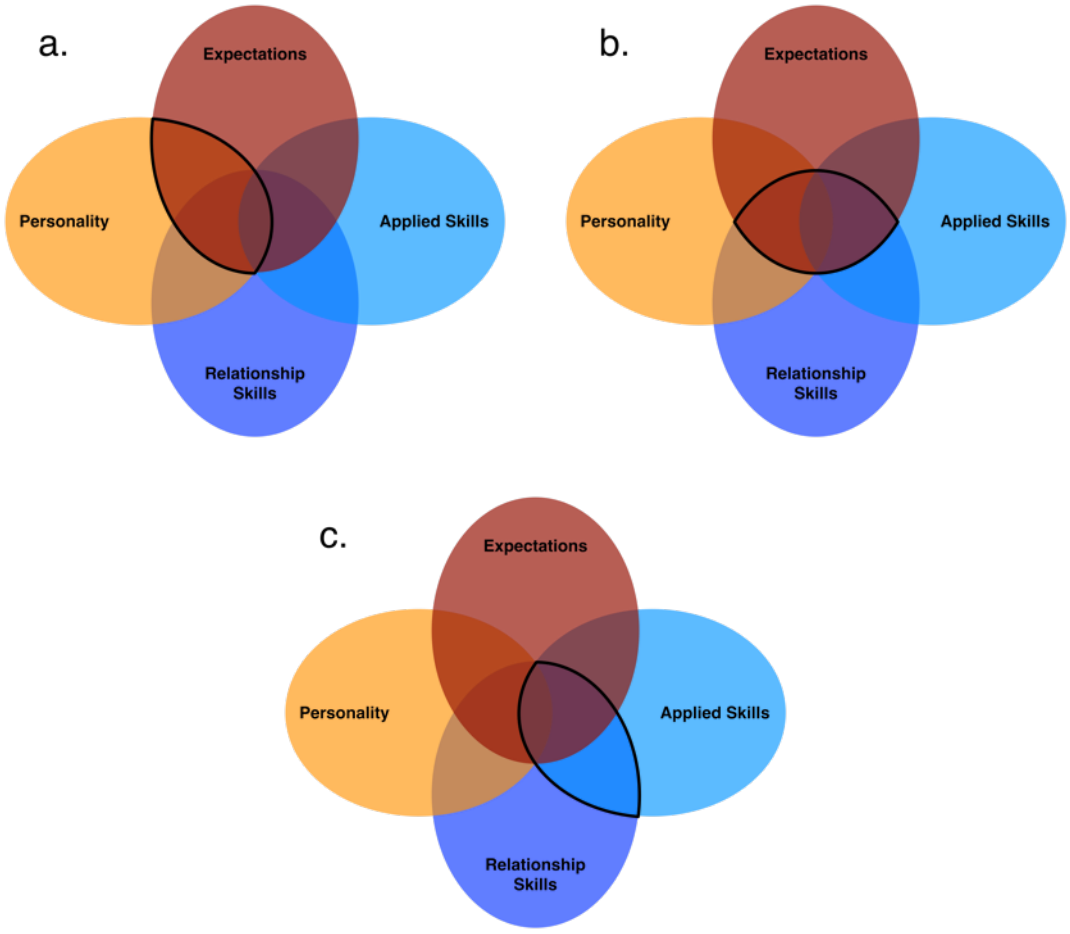


**Figure 5.3** Key intersections in the theoretical framework: *initial compatibility* (a), *ongoing compatibility* (b), and *skill development* (c)

The second key intersection represents ongoing compatibility (Figure 5.3b). It is characterized by a familiar working routine (Izadinia, 2015b; Patrick, 2013), and is exemplified in a collegial, collaborative environment (J. J. Lawley et al., 2014). Contributions to this theoretical intersection come from all four categories. There appears to be an intersection in the compatibility instrument between *expectations*

(*collaboration* and *intern development*), *personality* (*conscientiousness*), and *relationship skills* (*theoretical foundations*) that measures indicators of ongoing compatibility.

The final theoretical intersection represents skill development, and is primarily assessed through the intersection of *applied skills* and *relationship skills* (Figure 5.3c). The internship is designed to provide opportunities for education students to develop practical skills in a classroom setting, and it is assessed through a formal evaluation process (Allen, 2011; Smith, 2010). Additionally, it is a valuable source of professional development for mentors (Smith, 2010). Personality also affects this intersection, particularly through *conscientiousness* (Kappe & van der Flier, 2012) and *neuroticism* (John et al., 2008). There appear to be two intersections that measure indicators of skill development in the compatibility instrument. The first addresses inclusivity through *applied skills* (*cultural collaboration* and *participation*) and *relationship skills* (*diversity and equity* and *reflection*). The second addresses classroom presence through *applied skills* (*instruction*) and *personality* (*conscientiousness* and *neuroticism*).

### 5.2.3 Intersectional advancements (Question 5)

The intersections in the theoretical model are the key to compatibility. That is, *personality* characteristics are most important in the way they intersect with *skills* and *expectations* to provide a picture of behaviour and performance in the internship. Ideally, measurements for compatibility calculations should be taken from the intersections identified in Section 2.7. Some items in the compatibility instrument measure these intersections (see the previous section). More work is needed in this area to define what the intersections are, and to identify traits for measurement within them.

The compatibility instrument created in this study provides an opportunity, and it also raises a question. The instrument allows for measurement of traits within the intersections of the theoretical model. However, factor analysis of those traits showed clear patterns within the categories. The claims "intersections measure compatibility", and "factors exist within categories" are not exactly aligned. Factors are the measurement variables for compatibility calculations. If the intersections are important, then the factors should correspond to the intersections instead of the categories. So, the obligatory question is: do measurement factors (variables) exist within categories or within intersections? This contradiction does not invalidate the theoretical model or the compatibility instrument. Rather, it would necessitate reframing the focus of the compatibility instrument, and is an interesting subject for future research.

There is assumed to be something basic about humans that contributes to personality traits. Further, the five factors in the big five model are assumed to encompass the entirety of that basic personality information (Costa & McCrae, 1992). The claim of being basic is a common foundation for arguments between competing personality models (Costa & McCrae, 1992; H. J. Eysenck, 1992). This study makes the claim that there is something basic about skills, and moreover, there is something basic about the interactions of the categories for measuring compatibility. Personality assessments, such as the five-factor model, attempt to represent the actual personality of individuals on a normalized (comparable) scale (Costa & McCrae, 1992). Analogously, the compatibility instrument created in this study attempts to represent the actual skills of individuals in a measurable form.

## 5.3 Implications

This study has implications for theory, research, and practice. Theoretical implications (Section 5.3.1) address the focus of skills items in the compatibility instrument. Some implications for research that were identified during this study are presented in Section 5.3.2. A more detailed discussion of future research opportunities is presented later in Section 5.6. This section concludes with a consideration of implications for deploying the compatibility survey (Section 5.3.3).

### 5.3.1 For Theory

The third interpretation panel (Section 4.1.1.3) had a lengthy discussion around the *personality* items *I am a person who can be moody* and *I am a person who can be depressed*, and characterized these as an internalization or externalization of things that bother them. Among other panels, the internalization/externalization divide was debated, with a consistent preference for externalization of skills (see Section 4.1.1.6). Within the internship, there appears to be a higher value placed on a visible display of skill or emotion. The internship relationship succeeds through communication (Izadinia, 2015a), and externalization of development helps both the intern and mentor constructively address struggles and celebrate successes. Internalization of skills and feelings would require more explicit communication of those skills and feelings, and could present more opportunities for misunderstanding and miscommunication. Appreciation of the internalization/externalization divide has implications for understanding intern development, intern assessment, and intern-mentor compatibility.

The focus on externalization implies a divergence between traits indicative of teacher skill, and traits indicative of compatibility. Intern assessment forms contain a

mix of developmental skills and reflective skills. For example, "Communicates ideas concisely using precise vocabulary and syntax" (Martinet et al., 2001, p. 2), and "Is a reflective practitioner who continually assesses the effects of instructional choices and actions on others…" (University of Saskatchewan, n.d., p. 3) correspond to developmental and reflective skills respectively. These skills are useful benchmarks for interns who are developing their teaching identity and their skills in the classroom. However, these skills do not appear to be as useful for determining the compatibility between the intern and the mentor. All the interpretation panels voiced a concern similar to "Nobody will admit to a lack of skill", and the skewed results on the pilot test confirm that concern. The interpretation panels tended to identify externally demonstrated skills in an effort (partially) to find traits for compatibility rather than traits specifically measuring skill level.

The theoretical framework developed in Chapter 2 remained consistent through the creation of the compatibility instrument. Although there was a tendency among the interpretation panels to move away from specific developmental or reflective skills, the four categories in the framework retained their distinct qualities in the final compatibility instrument, which implies that the framework is theoretically grounded, though perhaps measurement of the categories requires further research.

### 5.3.2 For Research

Many of the studies characterizing "skills of a successful teacher" are small-scale and qualitative in design. These studies tend to focus on one aspect of teaching skills such as communication (Izadinia, 2015a) or self-reflection (Cattley, 2007), with a lack of agreement regarding the categorization and definition of those skills (Ornstein & Lasley,

2000). This study provided a foundation for future research in this area by combining the qualitative voices of interns and mentors with a structured, quantitative approach. The approach used in this study yielded a categorized and factored list of skills curated by active interns and mentors.

A goal of this project was to approach internship compatibility in a rigorous, methodical fashion that highlights compatibility in targeted areas. This contrasts with some research conducted in this area, which considers compatibility as one aspect of internship success separate from intern skill and expectations (Bradbury & Koballa, 2008; Hastings, 2010; Tollefson & Kleinsasser, 1992). That is, these studies focus on the success of the intern, rather than the relationship between the intern and the mentor. This study provides a foundation for future research into the undergraduate education internship with a focus on compatibility between the intern and the mentor. By focusing on compatibility, benefits to both parties in the relationship can be identified, which could improve the understanding of benefits to mentors who participate in internships.

Within the personality literature there are well established, and extensively tested, models measured by factors and traits (John et al., 2008). A measurement instrument for one of these models was employed in the *personality* category of this study. While no equivalent models are available for *skills* and *expectations*, this study laid the groundwork for the study and creation of such models. The identification of a list of traits and factors in Chapter 2, and the refinement of that list through the qualitative and quantitative phases of this study, demonstrated an effective approach for studying skills and expectations relevant to teacher development and intern-mentor compatibility. Future research is needed to better define and understand the *skills* and *expectations*

categories identified in this study, and to better understand the role of compatibility in successful internship relationships.

### 5.3.3 For Practice

Characteristics (such as emotional stability and imagination) can be differentiated from competencies (such as pacing and feedback). Competencies (or skills) are more easily measured than characteristics, and have been used for teacher evaluation. For example, merit pay plans in the United States and teacher appraisal systems have employed competency assessments (Ornstein & Lasley, 2000). Due to the focus of such uses there is a danger that competency assessments will identify teacher incompetence rather than teacher competence. The goal of this compatibility instrument is not to single out poor interns and mentors. Rather, the instrument is a tool to identify descriptive differences and similarities between interns and mentors.

There seemed to be a tendency for interns to exaggerate their proficiencies when completing the pilot survey, leading to skewed results. This tendency was also observed on other internship application forms (Solheim et al., 2015). While understandable, this strategy is somewhat counterproductive to a positive outcome for compatibility since the purpose of the compatibility instrument (and the internship in general) is to identify developing skills. It should be acceptable for interns to not have a fully developed skill set at the outset of their internship, and it should be acceptable to claim such a level of skill. Likewise, mentors are experienced teachers, but there is no expectation that they have stopped developing their teaching skills. Indeed, skill development and exposure to new ideas have been identified as benefits for mentors who participate in internships (Allen & Wright, 2014).

All the interpretation panels indicated that interns would not claim a lack of skill, and as discussed previously, the panels gave very little consideration to the way that mentors would complete the compatibility instrument. To counteract the phenomenon of misrepresentation of skills, one of the interpretation panels suggested framing skills as "[attributes] I would like to refine in the internship". This approach might address the problem, but the phrasing is less applicable for mentors who complete the survey. A better balance needs to be reflected in the compatibility instrument between the needs of interns and the needs of mentors within the internship relationship, as exaggeration of responses on the instrument will have implications for accurate measurement of factors, and for compatibility calculations.

This phenomenon among participants in the study could be an aspect of the halo effect initially defined by Thorndike (1920). The halo effect claims that people will present the best version of themselves when performing a self-assessment. Within personality literature, the halo effect has been included as part of the model (Anusic et al., 2009; Furnham, Eysenck, & Saklofske, 2008; R. Hogan & Chamorro-Premuzic, 2015), and has also been claimed to not affect survey measurement (R. Hogan & Chamorro-Premuzic, 2015). Within the context of this study, there were attempts to mitigate the halo effect through alternate wording of survey items, a focus on externally demonstrated skills rather than internally demonstrated skills, and through a shift from developmental skills to compatibility skills. None of those approaches was entirely successful and additional research focused on this aspect of compatibility measurement would be welcomed.

In general, it is necessary to better balance the needs of mentors and the needs of interns when assessing compatibility. All five of the interpretation panels viewed the compatibility instrument almost exclusively from the intern perspective. For example, a mentor in Panel 4 stated "If a person has this quality already, we don't have to deal with it." There was a tendency among all panels to view traits as things that need to be improved or not improved, rather than as things that contribute to compatibility.

### 5.4 Limitations

The data collection and analysis in this study was subject to some limitations. In both the qualitative and quantitative phases the sample was limited in certain ways. The interpretation panels consisted of more interns than mentors, there was an overrepresentation of urban participants, and an underrepresentation of people involved in problematic internships. The quantitative sample was chosen exclusively from students in the undergraduate education program. The results in the quantitative phase were very skewed, which may have been a factor of the restricted sample. The deviation from normality did not unduly affect the factor analysis, but it may be indicative of a deeper issue regarding the traits used for measurement in this instrument. The skewed responses were particularly prevalent in the *skills* and *expectations* categories where, as noted previously, there seemed to be a phenomenon of misrepresentation of abilities. Although this misrepresentation was partially mitigated by the selection of traits for the pilot survey, it is clear that further work is needed to understand how to counteract this phenomenon when the compatibility instrument is deployed.

This study undertook to develop a complete compatibility instrument covering four categories. As a result, it was not an exhaustive examination of the skills categories

since they are components of the larger compatibility instrument. A focus on those categories independent of expectations and personality could highlight new factors and identify other useful traits to include in the survey. Additionally, a focus on skills could clarify the distinction between *applied skills* and *relationship skills*. Similarly, *expectations* would benefit from a focused examination independent of the other categories.

Compatibility calculations based on skills require an enumeration of teaching skills that is generally agreed on in the literature, and that represent measurable markers on which to base those calculations. As discussed in Chapter 2, this enumeration of teaching skills does not exist. Consequently, the skills used in this study were selected from sources that measure competency of interns rather than compatibility of interns and mentors. That decision resulted in a skewed representation of the skill-set of teachers. Analogously, the *expectations* category measures expectations of roles within the intern-mentor relationship, but does not consider practical expectations of the internship such as workload, teaching ratio, communication, and so on.

## 5.5 Methodological Reflections

The limitations of this study are strongly influenced by the development of the skills section of the compatibility instrument. In retrospect, some decisions made while planning the study likely exacerbated these limitations. First, the skill items selected for inclusion in the study measured competency rather than compatibility since they employed intern assessment forms as a source. As described in Chapter 2, this was a reasonable compromise considering the lack of unified research on that topic. However, an alternative approach to identifying skills related to compatibility may have yielded

different results. As discussed previously, the tendency toward measurement of competency was mitigated somewhat in this study through a focus on externalization of skills over internalization of skills, and on compatibility over evaluation. However, these approaches were limited by the available pool of skill traits, so an initial list of traits with a stronger focus on aspects of compatibility would have been beneficial. Such a list may have resulted in a better balance between considerations for interns and considerations for mentors, and it may have addressed the issue of misrepresentation of abilities among respondents.

Another trait of the intern assessment forms employed in this study is their comprehensiveness. The consequence of that was a very large initial list of traits, which were presented to the interpretation panels for evaluation. The initial list was overwhelming for the panels and resulted in long sessions. For example, a few panels tended to say "yes, add it to the keep pile—we can remove it later", which appeared to be a coping strategy to help organize the full list of traits. Unfortunately, there were simply too many traits for this to be an effective strategy, and many "on the fence" items were retained without any further discussion. Additionally, overlap in the content of the initial traits caused the interpretation panel results to diverge rather than to converge, leading to an extensive intermediate phase. A smaller, more focused initial pool of traits would have helped the interpretation panels to be more discerning about which traits were included, and would have resulted in more overlap between the panel results.

It may have been useful to employ fewer distinct interpretation panels, but to have those panels repeat two or three times. That would lengthen the qualitative data collection period, but may eliminate the extensive intermediate analysis that was

conducted. Alternatively, a second round of interpretation panels could be conducted to perform the intermediate analysis. However, both modifications would require a more substantial commitment from the interpretation panel participants through a longer time commitment, or through a greater number of participants.

Video recordings of the panels might have been beneficial. There were times when it was difficult to identify which trait the participants were talking about from the audio recording. Frequently, they would show the card to each other and then discuss it without stating what was on the card. An effective video recording could be difficult to set up however. The participants sometimes moved around the room, or split into smaller groups. It would be difficult to position a camera so that all participants could be observed.

While a mixed methods design was an effective approach to address the goals of this study, several potential improvements were identified as the study progressed. Primarily, these improvements pertained to the qualitative phase. A smaller, more focused list of initial traits would have presented the interpretation panels with a more achievable set of tasks. Additionally, a smaller initial list may have resulted in convergence among the interpretation panel results, which would have reduced the need for an extensive intermediate phase in this study. The quantitative phase was effective, however a more diverse pool of respondents during this phase could have improved the reliability of the identified factors.

## 5.6 Future Work

This study provided the foundation for a substantial research program. There are future research ideas ranging from general with a closer examination of the theoretical

model, to specific with a study of the processes by which interns and mentors are matched (see Figure 5.4). Some of the future work proposed here would operate on a small scale, while other studies would require more substantial time and resources to complete. This section will briefly outline some directions for future work based on this study.

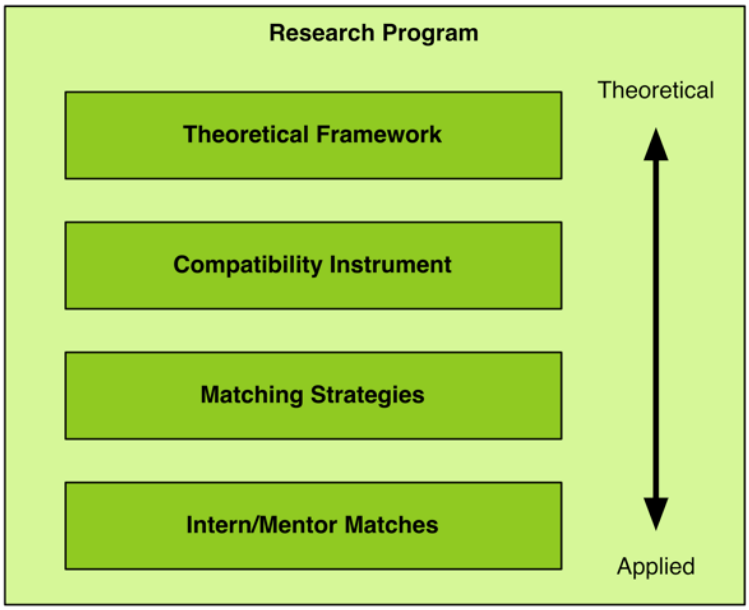


**Figure 5.4** The future research program

Section 5.2 discussed the ways in which the current study informed an understanding of the theoretical framework. However, the theoretical framework was only a secondary purpose of this study, and thus claims about the structure and definition of the framework were modest. A series of studies with a primary focus on the theoretical framework would be beneficial. The intersections in the theoretical framework are claimed to be critical for compatibility, but when studying the framework in its entirety those intersections are less easily defined. If each category were studied

independently, a consideration of overlaps between the studies could shed better light on the existence and importance of intersections within the theoretical framework.

Most applications of the five-factor model treat the factors as linear. That is, higher levels of conscientiousness or extraversion will be more beneficial than lower levels. Recent research suggests that curvilinear relationships may be more accurate (Cucina & Vasilopoulos, 2005; Le et al., 2011), implying that there is a law of diminishing returns for personality factors. Curvilinear relationships also corroborate the concept of *normative* personalities (Wortman et al., 2014). Under that theory people tend to get along with each other, and personality clashes are defined by factors that fall outside the normative range. If true, this model of personality compatibility could affect the calculation and measurement of compatibility. Further research could investigate whether a normative relationship extends to skills and expectations, and what that would mean for the compatibility instrument and for matching strategies.

Another aspect of measurement and matching builds on the facets within the five factors. Facets can be assessed using a longer personality survey such as the NEO-PI-R (Costa & McCrae, 1992). For example, a more comprehensive measure of extroversion can distinguish between "agreeable or disagreeable extroverts" (Jensen-Campbell et al., 2015, p. 360). Would a more complete measurement of personality reveal interactions between personality traits and response patterns on the other parts of the compatibility survey? For example, a high level of neuroticism (poor self-image) might lead to skewed and unreliable self-report data on personality instruments. This tendency would likely also influence the other categories in the compatibility instrument, and might be considered an aspect of the halo effect (Thorndike, 1920).

A study of the way that the halo effect influences self-assessment behaviour in the context of an internship could provide strategies to convince interns and mentors to respond truthfully on the survey, which would influence intern/mentor matches. Such a study could be addressed through education about, and belief in, the matching system that is in place. Additionally, it could be addressed through an understanding of why the respondents are not truthful on the survey, or through alterations to the items and the survey structure that encourage honest responses. An examination of the influence of algorithm aversion (Dietvorst et al., 2015), could assist with understanding this issue.

Matching strategies are a natural application of the compatibility instrument to facilitate the placement of interns into beneficial internship relationships. The system currently in practice for internship placements matches similarity on the survey responses weighted by an importance ranking for survey items (Prytula et al., 2015). There is also the potential to adapt a more sophisticated predictive probability model from the computer science literature such as hidden markov models (Ghahramani, 2001), neural networks (Rojas, 2013), or Bayesian networks (Pearl, 2009).

In addition to future research within the structure of the research program, there is an opportunity to incorporate tangential research into the understanding of compatibility matching. For example, the internship placement model could be applied to disciplines outside of education, or to matching new teachers with mentors to facilitate new teacher induction outside of the internship. These domains share some commonalities with the compatibility instrument developed here, but they also open new avenues for research. A study of compatibility within other domains could improve the understanding of the structure of the theoretical framework and the identification of intersections within the

framework. Additionally, it could suggest new sources for skill identification that focus more on compatibility than on competence.

A recent study on partnered placements shows the potential of placing two interns with one mentor for the internship (Prytula, Burgess, Solheim, & Nahachewsky, 2016). It is conceivable that there are different indicators of compatibility when considering three people, rather than two people. An avenue for future research would explore these differences to accommodate partnered placements with the compatibility instrument and the matching strategies.

Adjacent levels in the research program (Figure 5.4) are symbiotic. That is, a study focused on one level will provide information about that level's neighbours. For example, the current study focused on the compatibility instrument while providing some evidence for the structure of the theoretical framework. Similarly, any study focused on the theoretical framework would likely involve measurement tools, which would reflect on the compatibility instrument. When planning a future study, it will be worth considering the implications that study might have for other areas of the research program.

## 5.7 Summary

The internship is a formidable learning experience for interns, and a valuable source of professional development for mentors. This chapter discussed the creation of a compatibility instrument for use in matching interns and mentors into internship placements.

There is a significant body of research pertaining to compatibility between intern and mentor. Cattley (2007) and Trent (2013) discussed the concept of *negotiation* in the

formation of professional identity. A poor intern-mentor relationship compromises negotiation, which removes agency in the formation of a professional identity. Hong (2010) links professional identity with teacher retention, implying that strong intern-mentor relationships lead to strong professional identities, which in turn lead to teachers with a long-term commitment to the profession. Research has shown that personality is an important component of internship success (Andrew et al., 1996; Ensher & Murphy, 1997; Hastings, 2004). Similarly, a meta-analysis of perceptions of mentoring by Eby et al. (2013) showed that perceptions of similarity of personality were the strongest predictors of mentor support and quality of the relationship. However, in these instances the variable *personality* was rarely unpacked to identify which aspects of personality are important.

There is a similarly large body of research pertaining to perceptions of similarity in a relationship. Kottke and Kimura (2009) discussed the application of meta-cognitive traits to the perception of similarity, which represents an attempt to align common sense (meaning expectations and pre-conceived notions) with reality (meaning observations). However, in the context of this study, the interns and mentors have not met so observations do not yet exist regarding the relationship.

The compatibility instrument described in this study represents a structured approach to unpacking the construct *compatibility* with respect to interns and mentors in the undergraduate education internship. This instrument can help to align expectations of the intern-mentor relationship prior to the internship, with future observations within the internship. The goal of this compatibility instrument is more productive internship experiences for both interns and mentors.

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# Appendix A

## Letters of Invitation

**Qualitative Participant Letter of Invitation**

# *Letter of Invitation*

**Project Title: An examination of factors contributing to compatibility between interns and mentors within the education pre-service internship**

**Researcher:**
Jeff Solheim, PhD Candidate
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**Supervisor:**
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**Purpose and Objectives of the Research:**

- The purpose of this research is to investigate dimensions of compatibility within the intern-mentor relationship. In particular, this study seeks to develop a compatibility survey that can be used to match interns and mentors based on personality, skills, and expectations.

**Procedures:**

- Participants will be invited to join an interpretation panel to discuss the inclusion of particular factors in the compatibility survey. This is the first of two phases in this study.
- Interpretation panels are a type of specialized focus group. The interpretation panels will be tasked with interpreting a provided data set, with the goal of reaching conclusions agreed upon by the whole panel. The data set for this study includes a number of survey questions organized into factors. The task for the interpretation panel is to call upon previous experience with internship relationships to condense this list for inclusion in the final compatibility survey.
- The conclusions of the interpretation panels will form the data set used in this phase of the study. This data will be employed to construct the final compatibility survey, which will be tested for validity in second phase of this study. An audio recording of the panel will be taken, although it will only be consulted if the researcher deems that context is needed to understand the conclusions drawn by the panel.
- An interpretation panel session is expected to take 90-120 minutes. A meal will be provided during each session.
- Please feel free to ask any questions regarding the procedures and goals of the study or your role.

**Potential Risks:**

- There are no known or anticipated risks to you by participating in this research

**Potential Benefits:**

- This may have benefit to yourself, your colleagues, and your schools. Contentious relationships can jeopardize the learning goals of the internship and contribute negatively to the professional growth of the intern and the mentor. This study seeks to mitigate contentious relationships with a comprehensive tool for establishing compatibility between interns and mentors.

**Compensation:**

- No direct compensation will be offered for participation in this study. However, a meal will be provided during the interpretation panel.

**Confidentiality:**

- Data gathered from participants may be used for academic presentations and research papers.
- All names and personal information will be kept strictly confidential.
- The researcher will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality.
- Data from this study will be kept in a secure location for five years.

**Right to Withdraw:**

- Your participation is voluntary and you can answer only those questions that you are comfortable with. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort.
- Data destruction may not be possible if you withdraw partway through the focus group. Contributions made during the focus group may have informed the structure and direction of the discussion, and it may not be possible to withdraw those contributions.
- Whether you choose to participate or not will have no effect on your position or how you will be treated.

**Follow up:**

- To obtain results from the study, please contact the researcher using the information at the top of page 1.

**Questions or Concerns:**

- Contact the researcher using the information at the top of page 1;
- This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office ethics.office@usask.ca (306) 966-2975. Out of town participants may call toll free (888) 966-2975.

**Consent**:

By participating in this study, **YOUR FREE AND INFORMED CONSENT IS IMPLIED** and indicates that you understand the above conditions of participation in this study.

**Email Invitation to Participate in the Qualitative Phase**

I am a PhD candidate in the Department of Educational Administration at the University of Saskatchewan conducting research under the supervision of Dr. Michelle Prytula on compatibility of interns and mentors in the education internship. Compatibility is an important aspect of a successful internship experience. The College of Education has been using compatibility matching to place interns with mentors for the internship through placement.usask.ca. However, a more in-depth tool for measuring compatibility has the potential to provide more accurate matches.

Due to your first-hand expert knowledge of the internship experience, I am inviting you to participate in the construction of a new compatibility survey. This will involve participation in a focus group with other [**interns/mentors**]. The focus group will take approximately 90-120 minutes to complete and a meal (pizza) will be provided for participants. The focus group will take place at [**room at the U of S**] on [**date**] at [**time**].

Your involvement in this survey is entirely voluntary and there are no known or anticipated risks to participation in this study. A letter of consent containing more details of the study is attached to this email.

Please reply to this email if you wish to participate in this study. This will allow me to anticipate the number of people who will be present for the focus group. If there is a large response, a second time will be organized.

Thank you for your time,

Jeff Solheim

**Quantitative Participant Letter of Invitation**

# *Letter of Invitation*

**Project Title: An examination of factors contributing to compatibility between interns and mentors within the education pre-service internship**

**Researcher:**
Jeff Solheim, PhD Candidate
Department of Educational Administration,
College of Education,
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**Supervisor:**
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(306) 966-7647
michelle.prytula@usask.ca

**Purpose and Objectives of the Research:**

- The purpose of this research is to investigate dimensions of compatibility within the intern-mentor relationship. In particular, this study seeks to develop a compatibility survey that can be used to match interns and mentors based on personality, skills, and expectations.

**Procedures:**

- Participants will be invited to join an interpretation panel to discuss the inclusion of particular factors in the compatibility survey. This is the first of two phases in this study.
- Interpretation panels are a type of specialized focus group. The interpretation panels will be tasked with interpreting a provided data set, with the goal of reaching conclusions agreed upon by the whole panel. The data set for this study includes a number of survey questions organized into factors. The task for the interpretation panel is to call upon previous experience with internship relationships to condense this list for inclusion in the final compatibility survey.
- The conclusions of the interpretation panels will form the data set used in this phase of the study. This data will be employed to construct the final compatibility survey, which will be tested for validity in second phase of this study. An audio recording of the panel will be taken, although it will only be consulted if the researcher deems that context is needed to understand the conclusions drawn by the panel.
- An interpretation panel session is expected to take 90-120 minutes. A meal will be provided during each session.
- Please feel free to ask any questions regarding the procedures and goals of the study or your role.

**Potential Risks:**

- There are no known or anticipated risks to you by participating in this research

**Potential Benefits:**

- This may have benefit to yourself, your colleagues, and your schools. Contentious relationships can jeopardize the learning goals of the internship and contribute negatively to the professional growth of the intern and the mentor. This study seeks to mitigate contentious relationships with a comprehensive tool for establishing compatibility between interns and mentors.

**Compensation:**

- No direct compensation will be offered for participation in this study. However, a meal will be provided during the interpretation panel.

**Confidentiality:**

- Data gathered from participants may be used for academic presentations and research papers.
- All names and personal information will be kept strictly confidential.
- The researcher will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality.
- Data from this study will be kept in a secure location for five years.

**Right to Withdraw:**

- Your participation is voluntary and you can answer only those questions that you are comfortable with. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort.
- Data destruction may not be possible if you withdraw partway through the focus group. Contributions made during the focus group may have informed the structure and direction of the discussion, and it may not be possible to withdraw those contributions.
- Whether you choose to participate or not will have no effect on your position or how you will be treated.

**Follow up:**

- To obtain results from the study, please contact the researcher using the information at the top of page 1.

**Questions or Concerns:**

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- This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office ethics.office@usask.ca (306) 966-2975. Out of town participants may call toll free (888) 966-2975.

**Consent**:

By participating in this study, **YOUR FREE AND INFORMED CONSENT IS IMPLIED** and indicates that you understand the above conditions of participation in this study.

**Email Invitation to Participate in the Quantitative Phase**

I am a PhD candidate in the Department of Educational Administration at the University of Saskatchewan conducting research under the supervision of Dr. Michelle Prytula on compatibility of interns and mentors in the education internship. Compatibility is an important aspect of a successful internship experience. The College of Education has been using compatibility matching to place interns with mentors for the internship through placement.usask.ca. However, a more in-depth tool for measuring compatibility has the potential to provide more accurate matches.

Due to your first-hand expert knowledge of the internship experience, I am inviting you to participate in the construction of a new compatibility survey. This will involve completion of an online survey. This survey will take less than 10 minutes to complete. At the end of the survey you will be given the opportunity to enter your name into a draw for 1 of 2 iPad minis. Your contact information will not be stored, or associated, with your survey responses.

Your involvement in this survey is entirely voluntary and there are no known or anticipated risks to participation in this study. A letter of consent containing more details of the study is attached to this email.

Thank you for your time,

Jeff Solheim

# Appendix B

## Samples of Cards Presented to the Interpretation Panels

**Personality**

I am a person who...

Is outgoing, sociable

I am a person who...

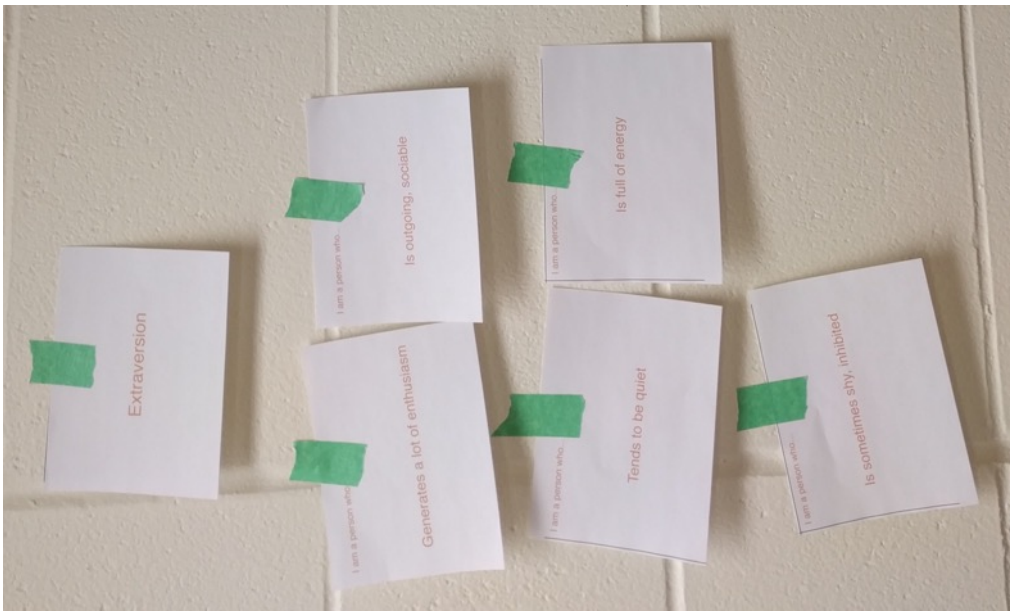
Is talkative

I am a person who...

Is reserved

I am a person who...

Is full of energy



**Relationship Skills**

I am a person who...

Understands educational inequalities

I am a person who...

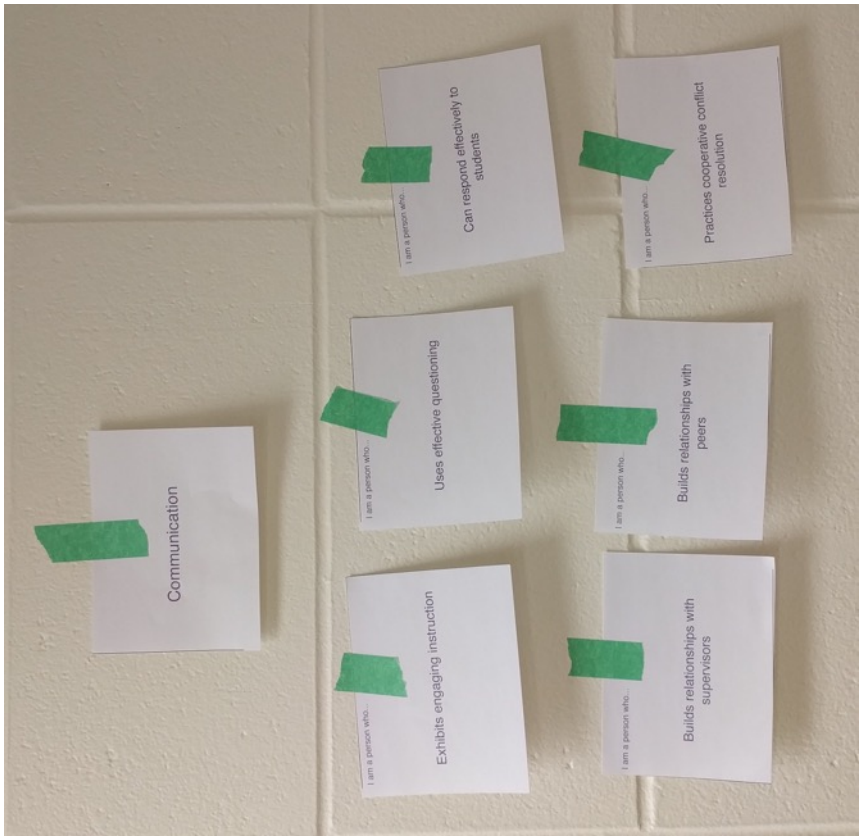
Identifies effects of socio-economic status

I am a person who...

Builds positive relationships

I am a person who...

Supports English language learners



**Applied Skills**

I am a person who...

Plans multiple ways for students to demonstrate knowledge

I am a person who...

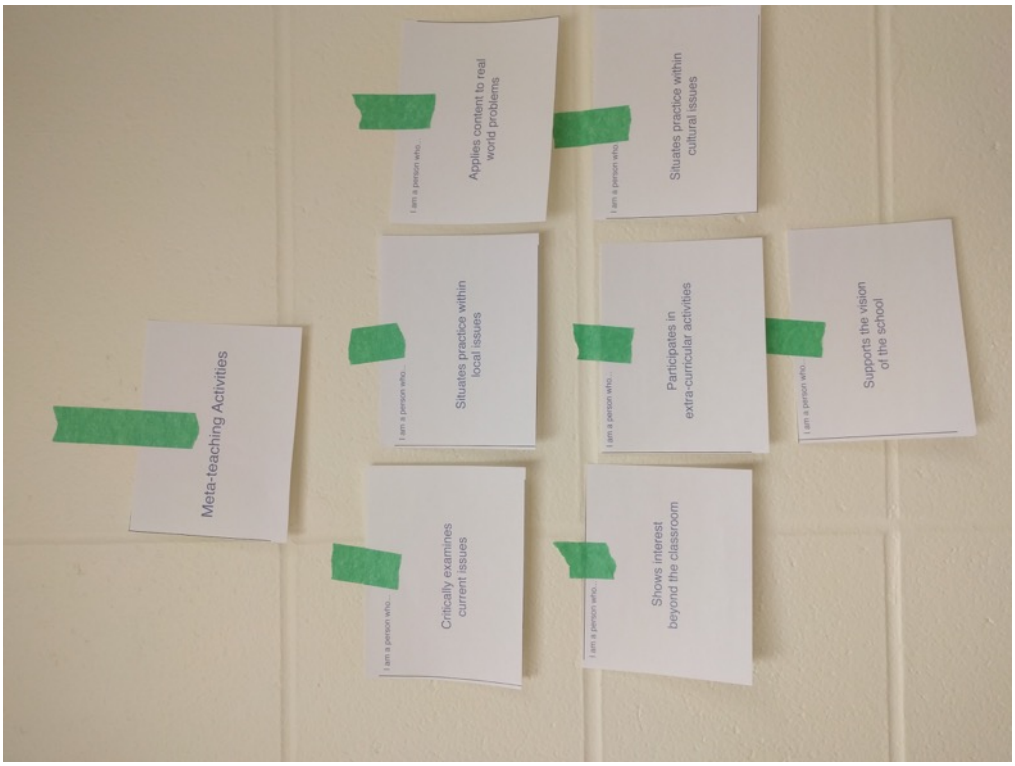
Stimulates discussion to probe understanding

I am a person who...

Adjusts plans to meet short-range goals

I am a person who...

Promotes questioning



**Expectations**

The role of the mentor is...

To provide feedback

The role of the mentor is...

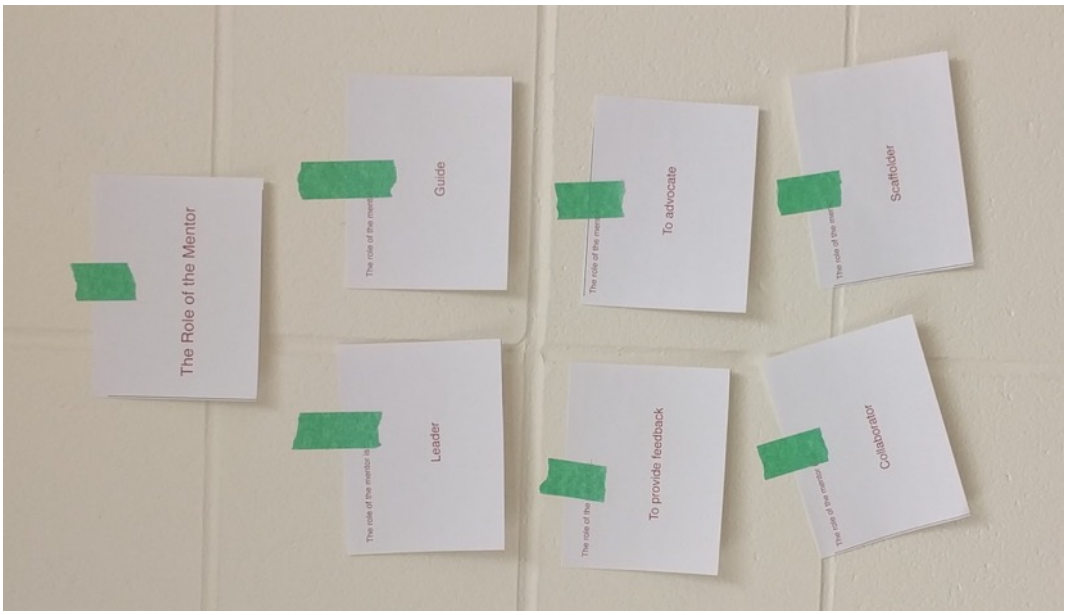
Instructional coach

The role of the mentor is...

Socializing Agent

The role of the mentor is...

Scaffolder



# Appendix C

## Reproduction of all Traits Identified in the Literature Review

**Personality**[a]

| Agreeableness | Conscientiousness |
|---|---|
| Tends to find fault with others | Does a thorough job |
| Is helpful and unselfish with others | Can be somewhat careless |
| Starts quarrels with others | Is a reliable worker |
| Has a forgiving nature | Tends to be disorganized |
| Is generally trusting | Tends to be lazy |
| Can be cold and aloof | Perseveres until the task is finished |
| Is considerate and kind to almost everyone | Makes plans and follows through with them |
| Is sometimes rude to others | Does things efficiently |
| Likes to cooperate with others | Is easily distracted |
| **Extraversion** | **Openness** |
| Is talkative | Is original, comes up with new ideas |
| Is reserved | Is curious about many different things |
| Is full of energy | Is ingenious, a deep thinker |
| Generates a lot of enthusiasm | Has an active imagination |
| Tends to be quiet | Is inventive |
| Has an assertive personality | Values artistic, aesthetic experiences |
| Is sometimes shy, inhibited | Prefers work that is routine |
| Is outgoing, sociable | Likes to reflect, play with ideas |
| | Has few artistic interests |
| | Is sophisticated in art, music, or literature |
| **Neuroticism** | |
| Is depressed, blue | |
| Is relaxed, handles stress well | |
| Can be tense | |
| Worries a lot | |
| Is emotionally stable, not easily upset | |
| Can be moody | |
| Remains calm in tense situations | |
| Gets nervous easily | |

[a]Items in this section are prefaced with "I am a person who…"

**Relationship Skills**

| Diversity & Equity | |
|---|---|
| I am a person who… | |
| Expects respect of race | Builds on multi-lingual resources |
| Expects respect of gender | Seeks multi-lingual resources |
| Expects respect of religion | Is sensitive to individual diversity |
| Expects respect of culture | Facilitates education for students with learning disabilities |
| Expects respect of abilities | Facilitates education for students with |

| | |
|---|---|
| | social maladjustments |
| Uses inclusive instructional strategies | Facilitates education for students with handicaps |
| Uses inclusive curriculum | Facilitates social integration for students with learning disabilities |
| Demonstrates a caring manner | Facilitates social integration for students with social maladjustments |
| Supports whole-student growth | Facilitates social integration for students with handicaps |
| Supports student self-worth | Consults resource people with regard to students |
| Understands diverse ethnic backgrounds | Proposes learning tasks for less able students |
| Understands diverse cultural backgrounds | Proposes challenges for less able students |
| Understands diverse linguistic backgrounds | Proposes classroom roles for less able students |
| Incorporates diverse ethnic backgrounds | Develops individualized education plans |
| Incorporates diverse cultural backgrounds | Implements individualized education plans |
| Incorporates diverse linguistic backgrounds | Understands my own teaching values |
| Identifies effects of socio-economic status | Provides appropriate attention to students |
| Ameliorates effects of socio-economic status | Provides appropriate support to students |
| Understands exceptionality | Avoids discrimination towards students |
| Understands inclusive education | Avoids discrimination towards parents |
| Promotes anti-oppressive education | Avoids discrimination towards colleagues |
| Promotes anti-racist education | Understands the background of moral conflicts |
| Understands educational inequalities | Supports English language learners |
| Addresses educational inequalities | Uses services to meet learning differences |
| Builds positive relationships | Uses services to meet learning needs |

| Reflection | |
|---|---|
| I am a person who… | |
| Reflects to guide professional development | Involves peers in research |
| Has developed a professional identity | Participates in ongoing learning opportunities |
| Can communicate my professional identity | Aligns professional development with needs of teachers |
| Actively seeks professional growth | Aligns professional development with needs of students |
| Actively seeks improvement | Aligns professional development with |

| | |
|---|---|
| | needs of the school |
| Has an established philosophy of education | Reflects on personal biases to understand cultural variations |
| Acts on advice | Reflects on personal biases to understand linguistic variations |
| Employs a question-reflection-action cycle | Reflects on personal biases to understand ethnic variations |
| Links theory and practice | Reflects on personal biases to understand gender variations |
| Reflects on my own competencies | Reflects on personal biases to understand learning variations |
| Reflects collaboratively with colleagues | Can justify teaching decisions |
| Adjusts practices based on reflection | |

| Communication | |
|---|---|
| I am a person who… | |
| Uses appropriate learning language | Understands gestural communication modes |
| Uses effective questioning | Employs linguistic communication modes |
| Is clear | Employs audio-visual communication modes |
| Is concise | Employs gestural communication modes |
| Can respond effectively to questions | Uses appropriate language with students |
| Can respond effectively to students | Uses appropriate language with parents |
| Uses subject specific vocabulary | Uses appropriate language with peers |
| Exhibits clear instruction | Uses proper grammar in written communication |
| Exhibits logical instruction | Practices good debating skills |
| Exhibits engaging instruction | Practices respectful debating skills |
| Communicates with guardians | Uses precise vocabulary |
| Adjusts tone for audience | Uses correct syntax |
| Adjusts vocabulary for audience | Corrects mistakes spoken by students |
| Adjusts formality for audience | Corrects mistakes written by students |
| Understands linguistic communication modes | Improves own oral language skills |
| Understands audio-visual communication modes | Improves own written language skills |

| Professionalism | |
|---|---|
| I am a person who… | |
| Is dependable | Responds positively to constructive criticism |
| Is flexible | Incorporates constructive criticism into practice |
| Takes initiative | Engages in reflective practice |
| Is punctual | Interacts professionally with colleagues |

| | |
|---|---|
| Engages in inquiry | Interacts professionally with peers |
| Engages in collaboration | Interacts professionally with students |
| Bases relationships on respect | Interacts professionally with parents |
| Bases relationships on trust | Provides extra learning assistance |
| Is enthusiastic | Understands educational legislation |
| Has a positive attitude | Contributes individually to school quality |
| Assumes a teacher role | Contributes collegially to school quality |
| Is observant | Practices cooperative conflict resolution |
| Is collegial | Has a commitment to professional standards |
| Develops team projects | Has a commitment to ethical standards |
| Organizes team projects | Builds relationships with supervisors |
| Helps to build consensus | Builds relationships with peers |
| Helps to build a teaching team | Cooperates to meet educational objectives |
| Respects confidentiality | Uses sound judgement when accessing the legal framework |
| Demonstrates a professional demeanour | Demonstrates integrity regarding professional ethics |
| Shares accountability | Maintains a professional appearance |
| Contributes to the skill of others | Uses professional language |
| Contributes to the knowledge of others | Collaborates to advance professional practice |
| Advocates for learners | Advocates for the school |
| Advocates for the community | Advocates for the profession |

**Applied Skills**

| Planning | |
|---|---|
| I am a person who… | |
| Plans lessons daily | Incorporates First Nations & Métis content |
| Creates detailed lesson plans | Incorporates First Nations & Métis perspectives |
| Prepares lessons ahead of time | Plans engaging lessons |
| Uses a range of planning techniques | Expresses aims specified in the curriculum |
| Plans fair lessons | Expresses competencies specified in the curriculum |
| Plans sensitive lessons | Expresses content specified in the curriculum |
| Plans accommodations | Plans teaching sequences |
| Accounts for context in lessons | Plans evaluation sequences |
| Follows curriculum guidelines | Differentiates lessons based on gender |
| Plans differentiated learning activities | Differentiates lessons based on ethnicity |
| Plans for the short term | Differentiates lessons based on culture |
| Plans for the medium term | Differentiates lessons based on socioeconomics |
| Plans for the long term | Anticipates obstacles to learning |

| | |
|---|---|
| Integrates supplementary resources | Plans learning that encourages different competencies |
| Adjusts curriculum to individuals | Creates developmentally appropriate instruction |
| Plans engaging lessons | Designs instruction to address particular strengths |
| Plans authentic lessons | Designs instruction to address particular needs |
| Incorporates technology | Sequences learning experiences effectively |
| Sets appropriate learning goals | Aligns learning experiences with curriculum goals |
| Hesitates to take risks | Plans multiple ways for students to demonstrate knowledge |
| Doesn't like to make mistakes | Plans multiple ways for students to demonstrate skills |
| Plans logically organized units | Collaborates with professionals to design effective learning experiences |
| Plans logically organized lessons | Adjusts plans to meet short range goals |
| Plans Engaging units | Adjusts plans to meet long range goals |

| Instruction | |
|---|---|
| I am a person who… | |
| Builds on students' prior experience | Uses a range of instruction techniques |
| Uses instructional strategies | Promotes multiple ways of understanding |
| Uses instructional groupings | Incorporates technology in the classroom |
| Implements accommodations | Identifies student spiritual strengths |
| Uses fair instruction techniques | Addresses individual exceptionalities |
| Addresses individual needs | Guides students to select information |
| Addresses individual learning styles | Guides students to interpret information |
| Addresses individual abilities | Guides students to understand information |
| Uses pedagogically sound teaching strategies | Modifies instruction based on developmental needs |
| Accounts for context | Accessibly communicates curriculum |
| Integrates supplementary resources | Enhances student spiritual strengths |
| Ensures participation of all students | Promotes challenging of assumptions |
| Ensures success of all students | Develops student communication skills |
| Identifies student academic strengths | Supports diverse social perspectives |
| Identifies student social strengths | Supports diverse cultural perspectives |
| Provides opportunities for learners to apply information | Supports student literacy across content areas |
| Identifies student physical strengths | Adapts to a changing environment |
| Monitors student learning to adapt instruction | Engages students in developing learning experiences |
| Enhances student social strengths | Enhances student academic strengths |
| Delivers instruction to address particular strengths | Varies the teaching role to address the needs of learners |

| | |
|---|---|
| Stimulates discussion to probe understanding | Provides multiple representations of concepts |
| Uses constructivist techniques | Engages learners in metacognition |
| Provides clear communication of curriculum | Provides opportunities for learners to access information |
| Delivers instruction to address particular needs | Provides opportunities for learners to interpret information |
| Expands student communication through speaking | Provides opportunities for learners to evaluate information |
| Uses suitable wait time | Emphasizes language development |
| Expands student communication through reading | Expands student communication through listening |
| Uses suitable eye contact | Uses suitable gestures |
| Expands student communication through technology | Expands student communication through writing |
| Provides necessary resources | Enables meaningful problem solving |
| Stimulates discussion to probe thinking | Enhances student physical strengths |
| Encourages teamwork | Asks relevant questions |
| Promotes questioning | Provides clear directions and explanations |

| Assessment | |
|---|---|
| I am a person who… | |
| Writes effective assessments | Provides timely feedback |
| Uses a range of assessment techniques | Accounts for context in assessments |
| Implements accommodations in assessments | Designs assessments to support learning goals |
| Uses sensitive assessment techniques | Designs assessments to motivate students |
| Uses appropriate assessment | Uses fair techniques |
| Uses appropriate evaluation | Provides effective feedback |
| Practices an effective reporting strategy | Gathers information about student learning |
| Designs evaluation tools | Continually assesses student learning |
| Communicates expected outcomes to students | Communicates expected outcomes to parents |
| Provides feedback to parents | Designs valid formative assessments |
| Guides students to assess their own learning | Guides students to assess their own thinking |
| Uses data to inform planning | Designs valid summative assessments |
| Prepares learners for multiple assessment formats | Uses formative data to guide instruction |
| Uses data to inform practice | Uses summative data to guide instruction |

| Content Knowledge | |
|---|---|
| I am a person who… | |
| Has knowledge of subject content | Has knowledge of curriculum expectations |
| Situates the subject's benchmarks | Situates the subject's concepts |
| Situates the subject's postulates | Situates the subject's methods |

| | |
|---|---|
| Embraces different viewpoints | Establishes cultural links to the subject |
| Can use multiple representations | Adopts a critical approach to the subject |
| Can use multiple explanations | Uses subject specific methods of inquiry |
| Questions content from multiple perspectives | Understands content from multiple perspectives |
| Uses subject specific standards of evidence | Analyzes content from multiple perspectives |
| Can recognize student misconceptions | Links content to existing knowledge |
| Can correct student misconceptions | Uses subject specific academic language |
| Evaluates curriculum resources for accuracy | Evaluates curriculum resources for comprehensiveness |
| Evaluates curriculum resources for appropriateness | Modifies curriculum resources for comprehensiveness |
| Applies content to real world problems | Modifies curriculum resources for accuracy |
| Applies content to interdisciplinary problems | Modifies curriculum resources for appropriateness |

| Classroom Management | |
|---|---|
| I am a person who… | |
| Implements a classroom routine | Maintains a participatory environment |
| Promotes respect | Provides an environment that supports learning |
| Promotes responsibility | Provides an environment that supports learners |
| Provides a secure social environment | Provides a secure cultural environment |
| Adapts to a changing environment | Organizes the physical environment |
| Provides a secure psychological environment | Provides an environment that supports responsibility |
| Communicates appropriate school behaviour | Establishes appropriate classroom procedures |
| Reinforces classroom expectations | Maintains an engaged environment |
| Establishes safe classroom procedures | Contributes to the classroom community |
| Develops a classroom routine | Establishes positive rapport with students |
| Communicates appropriate social behaviour | Involves students in setting classroom standards |
| Enforces appropriate school behaviour | Enforces appropriate social behaviour |
| Develops strategies to deal with behaviour issues | Develops strategies to prevent behaviour issues |
| Evaluates the learning environment with students | Maintains a positive classroom environment |
| Promotes shared values | Maintains positive rapport with students |
| Allocates classroom resources | Provides a secure physical environment |
| Manages the learning environment | Organizes the learning environment |
| Coordinates classroom resources | Adjusts the learning environment with students |

| Meta-teaching Activities | |
|---|---|
| I am a person who… | |
| Works to improve social conditions | Situates practice within political issues |
| Works to improve environmental conditions | Connects across family structure differences |
| Critically examines current issues | Situates practice within local issues |
| Situates practice within global issues | Situates practice within cultural issues |
| Connects with local communities | Connects with national communities |
| Connects with global communities | Connects across ethnic differences |
| Connects across ability differences | Connects across class differences |
| Connects across race differences | Encourages parent participation |
| Connects across gender differences | Coordinates with school partners |
| Contributes to school community | Supports the mission of the school |
| Collaborates in developing educational services | Collaborates in implementing educational services |
| Shows enthusiasm beyond the classroom | Supports students involved with administrative structures |
| Supports the vision of the school | Shows initiative beyond the classroom |
| Shows interest beyond the classroom | Participates in extra-curricular activities |
| Works with school professionals to plan learning | Works with school professionals to facilitate learning |

| Technology | |
|---|---|
| I am a person who… | |
| Understands the benefits of technology resources | Understands the limitations of technology resources |
| Understands the social issues of technology resources | Communicates using various multimedia resources |
| Assesses potential technology resources | Uses technology to support the curriculum |
| Uses technology to interpret problems | Uses technology to search for problems |
| Builds networks to facilitate information sharing | Uses technology to communicate information |
| Uses technology to solve problems | Helps students understand technology |
| Builds networks to promote professional development | Helps students become familiar with technology |
| Helps students exercise critical judgement with technology | Can evaluate technology for comprehensiveness |
| Collaborates using technology | Uses technology to meet learning needs |
| Uses technology to meet learning differences | Can evaluate technology for appropriateness |
| Can evaluate technology for accuracy | Uses technology to support assessment |
| Uses technology to inform planning | Uses technology to inform practice |
| Advocates safe use of technology | Advocates safe use of digital information |
| Advocates legal use of technology | Advocates legal use of digital information |
| Models ethical use of digital information | Advocates ethical use of digital information |

| | |
|---|---|
| Advocates ethical use of technology | Models safe use of digital information |
| Models legal use of digital information | Models ethical use of technology |
| Models safe use of technology | Models legal use of technology |
| Teaches safe use of digital information | Teaches legal use of digital information |
| Teaches safe use of technology | Teaches ethical use of digital information |
| Teaches legal use of technology | Teaches ethical use of technology |
| Maintains appropriate records | Uses data to document learning |

**Expectations**

| Goal of the Internship |
|---|
| The goal of the internship is… |
| Apprenticeship |
| Teacher preparation |
| To promote professional abilities |
| Knowledge development |
| School environment familiarity |
| Cognitive development |
| Emotional development |
| Skill development |
| Professional socialization |
| Pedagogical development |

| Intern and Mentor Roles | |
|---|---|
| The role of the mentor is… | The role of the intern is… |
| Leader | Apprentice |
| Advisor | Collaborator |
| Friend | Partner |
| Supporter | Source of knowledge |
| Guide | Observer |
| Collaborator | To provide feedback |
| To advocate | To be flexible |
| To counsel | To be loyal |
| To encourage | To provide support |
| To assess | To provide respect |
| To evaluate | Friend |
| Coach | To defer |
| Facilitator | Willingness to learn |
| Supervisor | |
| Professional support | |
| Personal support | |
| To provide feedback | |
| Instructional coach | |
| Socializing agent | |
| Parent figure | |
| Trouble shooter | |

Scaffolder

# Appendix D

## Traits Retained by the Interpretation Panels

**Personality**[a]

| Trait | Panels Retaining the Trait 1 | 2 | 3 | 4 | 5 | Totals |
|---|---|---|---|---|---|---|
| **Openness** | | | | | | |
| Has an active imagination | | | ✓ | | ✓ | 2 |
| Is curious about many different things | | | | ✓ | ✓ | 2 |
| Is original, comes up with new ideas | | ✓ | ✓ | ✓ | ✓ | 4 |
| Likes to reflect, play with ideas | | ✓ | ✓ | | ✓ | 3 |
| Prefers work that is routine | | ✓ | | | ✓ | 2 |
| Values artistic, aesthetic experiences | | ✓ | ✓ | | ✓ | 3 |
| **Conscientiousness** | | | | | | |
| Does a thorough job | | ✓ | | ✓ | ✓ | 3 |
| Does things efficiently | | ✓ | | ✓ | | 2 |
| Is a reliable worker | | | | ✓ | | 1 |
| Is easily distracted | ✓ | ✓ | ✓ | | ✓ | 4 |
| Makes plans and follows through with them | | ✓ | ✓ | ✓ | ✓ | 4 |
| Perseveres until the task is finished | | ✓ | ✓ | ✓ | | 3 |
| Tends to be disorganized | | ✓ | ✓ | | | 2 |
| **Extraversion** | | | | | | |
| Generates a lot of enthusiasm | | ✓ | ✓ | | ✓ | 3 |
| Has an assertive personality | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Is full of energy | ✓ | | ✓ | ✓ | | 3 |
| Is outgoing, sociable | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Is reserved | ✓ | ✓ | | | ✓ | 3 |
| Is sometimes shy, inhibited | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Is talkative | ✓ | ✓ | | | ✓ | 3 |
| Tends to be quiet | ✓ | | ✓ | | ✓ | 3 |
| **Agreeableness** | | | | | | |
| Has a forgiving nature | | ✓ | | | ✓ | 2 |
| Is generally trusting | | ✓ | | | ✓ | 2 |
| Likes to cooperate with others | | | ✓ | | | 1 |
| **Neuroticism** | | | | | | |
| Can be moody | | ✓ | ✓ | ✓ | ✓ | 4 |
| Can be tense | | ✓ | | | | 1 |
| Gets nervous easily | | ✓ | | | ✓ | 2 |
| Is emotionally stable, not easily upset | | | ✓ | | ✓ | 2 |
| Is relaxed, handles stress well | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Remains calm in tense situations | ✓ | ✓ | ✓ | | | 3 |
| Worries a lot | | | | | ✓ | 1 |
| **Totals** | 10 | 23 | 19 | 13 | 23 | 31 |

**Relationship Skills**[a]

| Trait | Panels Retaining the Trait 1 | 2 | 3 | 4 | 5 | Totals |
|---|---|---|---|---|---|---|
| **Communication** | | | | | | |
| Adjusts formality for audience | ✓ | | | | ✓ | 2 |
| Adjusts vocabulary for audience | ✓ | | ✓ | | ✓ | 3 |
| Can respond effectively to students | | ✓ | | | | 1 |
| Employs audio-visual communication modes | | | ✓ | | | 1 |
| Employs gestural communication modes | | | ✓ | ✓ | | 2 |
| Employs linguistic communication modes | | | ✓ | | | 1 |
| Exhibits engaging instruction | | ✓ | | | ✓ | 2 |
| Exhibits clear instruction | | | ✓ | ✓ | | 2 |
| Improves own oral language skills | | | | | ✓ | 1 |
| Improves own written language skills | | | ✓ | | ✓ | 2 |
| Is concise | | ✓ | | | | 1 |
| Practices respectful debating skills | | | | | ✓ | 1 |
| Uses appropriate language with students | ✓ | | ✓ | | ✓ | 3 |
| Uses correct syntax | | | | | ✓ | 1 |
| Uses proper grammar in written communication | | | | | ✓ | 1 |
| Uses effective questioning | | | ✓ | | | 1 |
| Uses subject specific vocabulary | | | | ✓ | | 1 |
| **Diversity & Equity** | | | | | | |
| Addresses educational inequalities | | ✓ | ✓ | | ✓ | 3 |
| Avoids discrimination towards students | | | | ✓ | ✓ | 2 |
| Builds on multi-lingual resources | | | | | ✓ | 1 |
| Builds positive relationships | ✓ | | | ✓ | | 2 |
| Expects respect of religion | ✓ | | ✓ | | | 2 |
| Facilitates social integration for students with learning disabilities | | ✓ | ✓ | | ✓ | 3 |
| Identifies effects of socio-economic status | ✓ | | | | | 1 |
| Implements individualized education plans | | | ✓ | | | 1 |
| Incorporates diverse cultural backgrounds | | ✓ | ✓ | | ✓ | 3 |
| Is sensitive to individual diversity | | ✓ | ✓ | | ✓ | 3 |
| Promotes anti-oppressive education | | ✓ | ✓ | | | 2 |
| Promotes anti-racist education | | | | ✓ | ✓ | 2 |
| Proposes learning tasks for less able students | | | ✓ | | | 1 |
| Supports English language learners | ✓ | | | | | 1 |
| Supports student self-worth | | | | ✓ | | 1 |
| Supports whole-student growth | | | ✓ | | ✓ | 2 |
| Understands diverse cultural backgrounds | ✓ | | | ✓ | | 2 |
| Understands educational inequalities | ✓ | | | | | 1 |
| Understands exceptionality | | | ✓ | | ✓ | 2 |
| Understands inclusive education | | | | ✓ | | 1 |
| Understands my own teaching values | ✓ | | | | | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Uses inclusive instructional strategies | | | ✓ | | ✓ | 2 |
| Uses services to meet learning difficulties | | | | | ✓ | 1 |
| Uses services to meet learning needs | | | ✓ | ✓ | | 2 |
| **Professionalism** | | | | | | |
| Advocates for learners | | ✓ | ✓ | | | 2 |
| Advocates for the community | | | ✓ | | | 1 |
| Advocates for the profession | | ✓ | | | ✓ | 2 |
| Assumes a teacher role | | ✓ | | | ✓ | 2 |
| Bases relationships on respect | | | ✓ | | | 1 |
| Builds relationships with peers | | ✓ | ✓ | | | 2 |
| Builds relationships with supervisors | | ✓ | ✓ | | | 2 |
| Collaborates to advance professional practice | ✓ | | | ✓ | ✓ | 3 |
| Demonstrates a professional demeanour | | | | | ✓ | 1 |
| Demonstrates integrity regarding professional ethics | | ✓ | | | ✓ | 2 |
| Engages in collaboration | | ✓ | | | | 1 |
| Engages in inquiry | | | ✓ | | ✓ | 2 |
| Engages in reflective practice | | | ✓ | | | 1 |
| Has a commitment to professional standards | | | | | ✓ | 1 |
| Has a positive attitude | | ✓ | | | ✓ | 2 |
| Incorporates constructive criticism into practice | | ✓ | ✓ | | ✓ | 3 |
| Interacts professionally with parents | | ✓ | | | ✓ | 2 |
| Interacts professionally with students | | ✓ | | ✓ | | 2 |
| Is dependable | | ✓ | | ✓ | ✓ | 3 |
| Is enthusiastic | ✓ | ✓ | | | ✓ | 3 |
| Is flexible | | ✓ | | | ✓ | 2 |
| Is observant | | ✓ | | ✓ | ✓ | 3 |
| Is punctual | | ✓ | | ✓ | ✓ | 3 |
| Maintains a professional appearance | | ✓ | | ✓ | | 2 |
| Practices cooperative conflict resolution | | ✓ | ✓ | | | 2 |
| Respects confidentiality | | ✓ | | ✓ | ✓ | 3 |
| Responds positively to constructive criticism | ✓ | ✓ | | ✓ | ✓ | 4 |
| Shares accountability | | ✓ | | | ✓ | 2 |
| Takes initiative | ✓ | | ✓ | ✓ | ✓ | 4 |
| Understands educational legislation | | | | | ✓ | 1 |
| Uses professional language | | | ✓ | ✓ | ✓ | 3 |
| **Reflection** | | | | | | |
| Actively seeks professional growth | | | ✓ | ✓ | ✓ | 3 |
| Adjusts practices based on reflection | | ✓ | ✓ | ✓ | ✓ | 4 |
| Aligns professional development with needs of students | | | | | ✓ | 1 |
| Can communicate my professional identity | | | ✓ | | | 1 |
| Can justify teaching decisions | ✓ | | ✓ | ✓ | | 3 |
| Has an established philosophy of education | ✓ | ✓ | | | ✓ | 3 |
| Involves peers in research | | | | | ✓ | 1 |
| Links theory and practice | | | ✓ | ✓ | | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Participates in ongoing learning opportunities | ✓ | ✓ | | ✓ | | 3 |
| Reflects collaboratively with colleagues | | | | | ✓ | 1 |
| Reflects on personal biases to understand cultural variations | | ✓ | | | ✓ | 2 |
| Reflects on personal biases to understand ethnic variations | | | | | ✓ | 1 |
| Reflects on personal biases to understand gender variations | ✓ | ✓ | | | ✓ | 3 |
| Reflects on personal biases to understand learning variations | ✓ | | | | ✓ | 2 |
| **Totals** | 19 | 34 | 36 | 26 | 51 | 86 |

## Applied Skills[a]

| | Panels Retaining the Trait | | | | | |
|---|---|---|---|---|---|---|
| **Trait** | **1** | **2** | **3** | **4** | **5** | **Totals** |
| **Assessment** | | | | | | |
| Communicates expected outcomes to students | ✓ | | | ✓ | ✓ | 3 |
| Continually assess student learning | ✓ | ✓ | | ✓ | | 3 |
| Designs assessments to support learning goals | | | ✓ | | ✓ | 2 |
| Designs evaluation tools | ✓ | | | ✓ | ✓ | 3 |
| Designs valid formative assessments | ✓ | | | | | 1 |
| Gathers information about student learning | | | | | ✓ | 1 |
| Guides students to assess their own learning | | ✓ | | ✓ | ✓ | 3 |
| Guides students to assess their own thinking | ✓ | | ✓ | | ✓ | 3 |
| Implements accommodations in assessments | | | | | ✓ | 1 |
| Practices an effective reporting strategy | ✓ | | | | | 1 |
| Prepares learners for multiple assessment formats | | | | | ✓ | 1 |
| Provides effective feedback | | ✓ | | ✓ | ✓ | 3 |
| Provides feedback to parents | ✓ | ✓ | | | ✓ | 3 |
| Provides timely feedback | ✓ | | | ✓ | ✓ | 3 |
| Uses a range of assessments techniques | ✓ | | | ✓ | ✓ | 3 |
| Uses appropriate evaluation | | | | | ✓ | 1 |
| Uses data to document learning | ✓ | | | | ✓ | 2 |
| Uses data to inform planning | | | | | ✓ | 1 |
| Uses data to inform practice | ✓ | | | ✓ | | 2 |
| Uses fair techniques | | ✓ | | | | 1 |
| Uses formative data to guide instruction | | | ✓ | | ✓ | 2 |
| Writes effective assessments | ✓ | | | ✓ | | 2 |
| **Classroom Management** | | | | | | |
| Adapts to a changing environment | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Adjusts the learning environment with students | ✓ | | | | | 1 |
| Allocates classroom resources | | ✓ | | | | 1 |
| Communicates appropriate school behaviour | | | | ✓ | | 1 |
| Contributes to the classroom community | | | | ✓ | | 1 |
| Develops a classroom routine | | | | ✓ | ✓ | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Develops strategies to deal with behaviour issues | ✓ | ✓ | | ✓ | ✓ | 4 |
| Develops strategies to prevent behaviour issues | | | | | ✓ | 1 |
| Enforces appropriate social behaviour | | | | | ✓ | 1 |
| Establishes appropriate classroom procedures | | ✓ | ✓ | | ✓ | 3 |
| Evaluates the learning environment with students | | | ✓ | | ✓ | 2 |
| Implements a classroom routine | ✓ | | | ✓ | ✓ | 3 |
| Involves students in setting classroom standards | | ✓ | ✓ | ✓ | ✓ | 4 |
| Maintains a participatory environment | | | ✓ | | ✓ | 2 |
| Maintains a positive classroom environment | | | | ✓ | ✓ | 2 |
| Maintains positive rapport with students | | | ✓ | | | 1 |
| Manages the learning environment | | | ✓ | | | 1 |
| Organizes the physical environment | | | | ✓ | ✓ | 2 |
| Promotes respect | ✓ | ✓ | | ✓ | | 3 |
| Promotes responsibility | | | ✓ | | ✓ | 2 |
| Promotes shared values | | ✓ | | | | 1 |
| Provides a secure cultural environment | | | | ✓ | | 1 |
| Provides a secure physical environment | | | | | ✓ | 1 |
| Provides a secure psychological environment | | | | | ✓ | 1 |
| Provides a secure social environment | | | ✓ | | ✓ | 2 |
| Provides an environment that supports learners | | ✓ | | | | 1 |
| Provides an environment that supports responsibility | | | | | ✓ | 1 |
| Reinforces classroom expectations | | ✓ | | | ✓ | 2 |
| **Content Knowledge** | | | | | | |
| Adopts a critical approach to the subject | ✓ | | ✓ | | ✓ | 3 |
| Analyzes content from multiple perspectives | | ✓ | | | | 1 |
| Applies content to interdisciplinary problems | | | | | ✓ | 1 |
| Applies content to real world problems | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Can correct student misconceptions | | ✓ | | | | 1 |
| Can recognize student misconceptions | | | | ✓ | | 1 |
| Can use multiple explanations | ✓ | ✓ | | ✓ | | 3 |
| Can use multiple representations | | | | | ✓ | 1 |
| Embraces (considers) different viewpoints | ✓ | | | ✓ | ✓ | 3 |
| Establishes cultural links to the subject | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Evaluates curriculum resources for accuracy | | ✓ | | | | 1 |
| Has knowledge of curriculum expectations | | | | ✓ | ✓ | 2 |
| Has knowledge of subject content | | ✓ | | ✓ | ✓ | 3 |
| Links content to existing knowledge | ✓ | ✓ | | ✓ | | 3 |
| Modifies curriculum resources for appropriateness | ✓ | ✓ | | | | 2 |
| Questions content from multiple perspectives | ✓ | | ✓ | | | 2 |
| Situates the subject's concepts | | | | | ✓ | 1 |
| Understands content from multiple perspectives | ✓ | | | | | 1 |
| Uses subject specific methods of inquiry | | ✓ | ✓ | ✓ | | 3 |
| Uses subject specific standards of evidence | ✓ | ✓ | | | | 2 |
| **Instruction** | | | | | | |
| Accounts for context | | | | | ✓ | 1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Addresses individual needs | | ✓ | ✓ | | | 2 |
| Asks relevant questions | | ✓ | | | | 1 |
| Builds on student's prior experience | | | | | ✓ | 1 |
| Delivers instruction to address particular needs | | | | | ✓ | 1 |
| Develops student's communication skills | | ✓ | | | ✓ | 2 |
| Emphasizes language development | ✓ | | | | | 1 |
| Enables meaningful problem solving | | ✓ | | | ✓ | 2 |
| Encourages teamwork | | ✓ | | | | 1 |
| Engages learners in metacognition | | | | | ✓ | 1 |
| Engages students in developing learning experiences | ✓ | | | | ✓ | 2 |
| Enhances student social strengths | | | | | ✓ | 1 |
| Ensures participation of all students | | | | | ✓ | 1 |
| Expands student communication through listening | | | | | ✓ | 1 |
| Expands student communication through reading | | | | | ✓ | 1 |
| Expands student communication through speaking | | | | | ✓ | 1 |
| Expands student communication through technology | ✓ | | | | ✓ | 2 |
| Expands student communication through writing | | | | | ✓ | 1 |
| Guides students to interpret information | ✓ | | | | | 1 |
| Guides students to understand information | | | | | ✓ | 1 |
| Identifies student academic strengths | | | | | ✓ | 1 |
| Implements accommodations | | | | | ✓ | 1 |
| Integrates supplementary resources | | | | | ✓ | 1 |
| Modifies instruction based on developmental needs | | | ✓ | | | 1 |
| Monitors student learning to adapt instruction | ✓ | ✓ | ✓ | | ✓ | 4 |
| Promotes challenging of assumptions | ✓ | | | | | 1 |
| Promotes questioning | ✓ | | | ✓ | ✓ | 3 |
| Provides clear communication of curriculum | | | ✓ | | | 1 |
| Provides clear directions and explanations | | | | ✓ | ✓ | 2 |
| Provides multiple representations of concepts | ✓ | | ✓ | | ✓ | 3 |
| Provides opportunities for learners to evaluate information | | | | | ✓ | 1 |
| Stimulates discussion to probe thinking | | | | | ✓ | 1 |
| Stimulates discussion to probe understanding | ✓ | | | | ✓ | 2 |
| Supports diverse social/cultural perspectives | | ✓ | | ✓ | ✓ | 3 |
| Supports student literacy across content areas | | | ✓ | ✓ | ✓ | 3 |
| Provides clear communication of curriculum | | ✓ | | ✓ | | 2 |
| Uses a range of planning techniques | | | | | ✓ | 1 |
| Uses instructional groupings | | | | | ✓ | 1 |
| Uses pedagogically sound teaching strategies | | | ✓ | | | 1 |
| Varies the teaching role to address the needs of learners | ✓ | ✓ | | | | 2 |
| **Meta-teaching Activities** | | | | | | |
| Collaborates in developing educational services | ✓ | ✓ | | | | 2 |
| Collaborates in implementing educational services | ✓ | | ✓ | | | 2 |
| Connects across ability differences | ✓ | ✓ | | | | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Connects across class differences | | | | | ✓ | 1 |
| Connects across ethnic differences | | | | | ✓ | 1 |
| Connects across family structure differences | | | | | ✓ | 1 |
| Connects across gender differences | | ✓ | | | | 1 |
| Connects across race differences | ✓ | ✓ | | | | 2 |
| Connects with global communities | ✓ | | | | | 1 |
| Connects with local communities | | ✓ | | ✓ | ✓ | 3 |
| Contributes to school community | | ✓ | | ✓ | ✓ | 3 |
| Coordinates with school partners | | ✓ | | | | 1 |
| Critically examines current issues | ✓ | ✓ | ✓ | | ✓ | 4 |
| Encourages parent participation | | ✓ | | ✓ | ✓ | 3 |
| Participates in extra-curricular activities | | ✓ | ✓ | | ✓ | 3 |
| Shows initiative beyond the classroom | | ✓ | | ✓ | ✓ | 3 |
| Shows interest beyond the classroom | | | ✓ | | | 1 |
| Situates practice within cultural issues | ✓ | ✓ | ✓ | | ✓ | 4 |
| Situates practice within local issues | ✓ | ✓ | ✓ | | ✓ | 4 |
| Situates practice within political issues | ✓ | ✓ | | | | 2 |
| Supports the vision of the school | | | ✓ | ✓ | ✓ | 3 |
| Works to improve social conditions | | ✓ | | | | 1 |
| Works with school professionals to facilitate learning | | | | | ✓ | 1 |
| Works with school professionals to plan learning | ✓ | | | | ✓ | 2 |
| **Planning** | | | | | | |
| Adjusts plans to meet long-range goals | | | | | ✓ | 1 |
| Adjusts plans to meet short-range goals | ✓ | | | | ✓ | 2 |
| Aligns learning experiences with curriculum goals | | | ✓ | ✓ | | 2 |
| Anticipates obstacles to learning | | | | ✓ | ✓ | 2 |
| Creates detailed lesson plans | | | | | ✓ | 1 |
| Creates developmentally appropriate instruction | | | | | ✓ | 1 |
| Differentiates lessons based on culture | ✓ | | | | | 1 |
| Doesn't like to make mistakes | | | | | ✓ | 1 |
| Expresses aims specified in the curriculum | | | | | ✓ | 1 |
| Follows curriculum guidelines | | | | | ✓ | 1 |
| Hesitates to take risks | | | | | ✓ | 1 |
| Incorporates First Nations & Métis content | | ✓ | | | | 1 |
| Incorporates First Nations & Métis perspectives | | ✓ | ✓ | ✓ | ✓ | 4 |
| Incorporates technology | | | | | ✓ | 1 |
| Plans authentic lessons | | | | ✓ | ✓ | 2 |
| Plans differentiated learning activities | ✓ | ✓ | | ✓ | ✓ | 4 |
| Plans engaging lessons | | ✓ | | | ✓ | 2 |
| Plans engaging units | | | | ✓ | ✓ | 2 |
| Plans for the long term | ✓ | | | | ✓ | 2 |
| Plans for the medium term | ✓ | | | | ✓ | 2 |
| Plans for the short term | ✓ | | | | ✓ | 2 |
| Plans learning that encourages different competencies | | | ✓ | | | 1 |
| Plans lessons daily | | | | ✓ | ✓ | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Plans logically organized units | | | | ✓ | | 1 |
| Plans multiple ways for students to demonstrate knowledge | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Plans multiple ways for students to demonstrate skills | | | | ✓ | ✓ | 2 |
| Plans teaching sequences | | | | | ✓ | 1 |
| Prepares lessons ahead of time | | | | | ✓ | 1 |
| Sequences learning experiences effectively | | | | ✓ | | 1 |
| Sets appropriate learning goals | | ✓ | | ✓ | ✓ | 3 |
| **Technology** | | | | | | |
| Builds networks to facilitate information sharing | ✓ | ✓ | | ✓ | | 3 |
| Can evaluate technology for accuracy | | | | ✓ | | 1 |
| Collaborates using technology | | ✓ | | | | 1 |
| Communicates using various multimedia resources | ✓ | | | | | 1 |
| Helps students exercise critical judgement with technology | | | ✓ | | ✓ | 2 |
| Helps students understand technology | | ✓ | | | | 1 |
| Maintains appropriate records | ✓ | ✓ | | ✓ | ✓ | 4 |
| Models ethical use of digital information | | | ✓ | | ✓ | 2 |
| Models ethical use of technology | | ✓ | | | | 1 |
| Models legal use of digital information | | | | | ✓ | 1 |
| Models safe use of digital information | | | | | ✓ | 1 |
| Teaches legal use of digital information | | | | | ✓ | 1 |
| Teaches safe use of technology | | | ✓ | ✓ | | 2 |
| Understands the limitations of technology resources | | | | | ✓ | 1 |
| Uses technology to meet learning differences | | | | | ✓ | 1 |
| Uses technology to meet learning needs | ✓ | ✓ | ✓ | ✓ | | 4 |
| **Totals** | 59 | 65 | 39 | 56 | 118 | 180 |

## Expectations

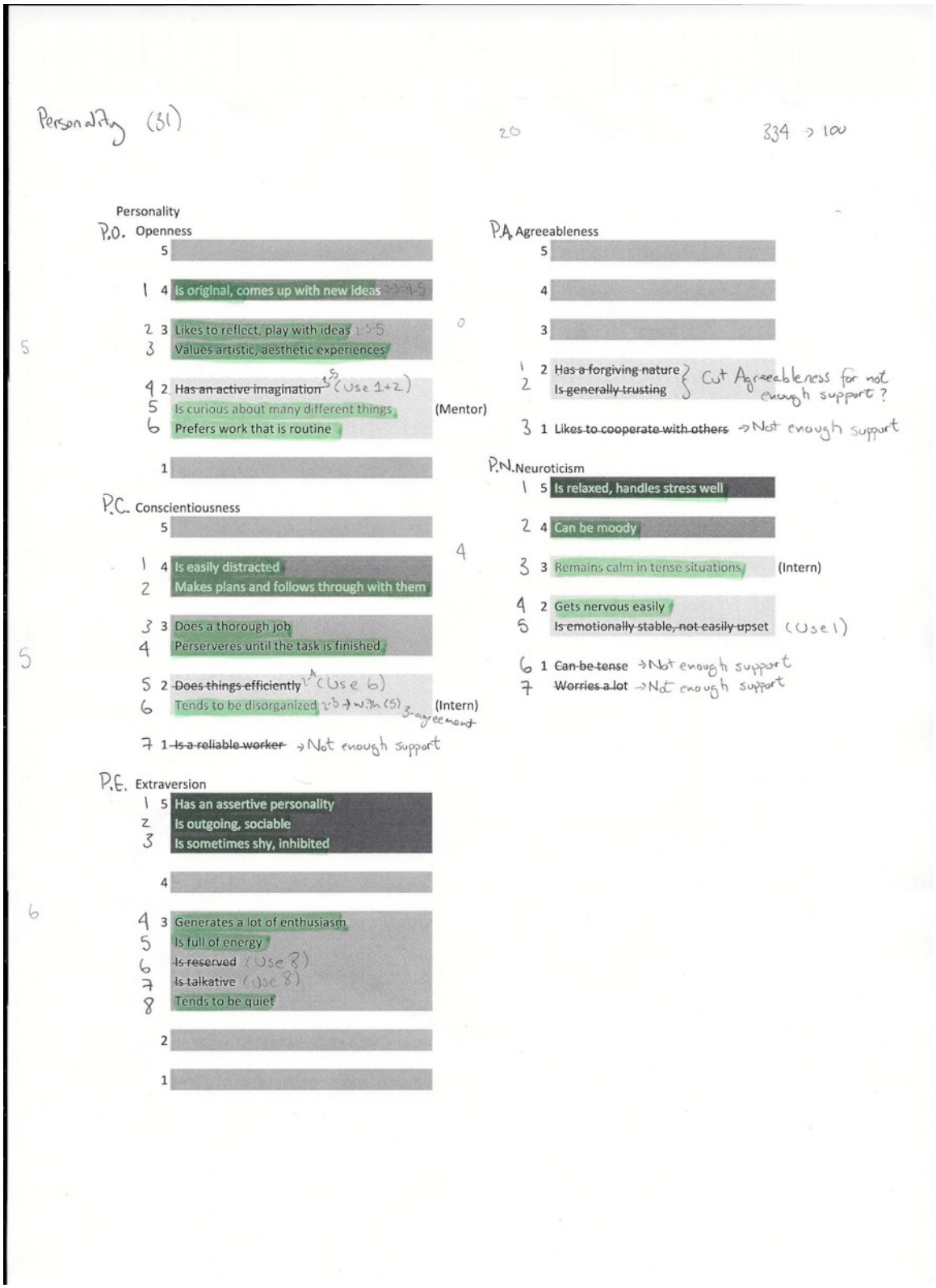
| | Panels Retaining the Trait | | | | | |
|---|---|---|---|---|---|---|
| **Trait** | **1** | **2** | **3** | **4** | **5** | **Totals** |
| **Role of the mentor**[b] | | | | | | |
| Advisor | | | ✓ | ✓ | ✓ | 3 |
| Collaborator | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Friend | ✓ | | | | | 1 |
| Guide | | ✓ | ✓ | | ✓ | 3 |
| Instructional coach | ✓ | | | ✓ | ✓ | 3 |
| Leader | | ✓ | | | ✓ | 2 |
| Relationship facilitator | ✓ | | | | | 1 |
| Scaffolder | ✓ | ✓ | ✓ | | | 3 |
| Supporter | | | ✓ | ✓ | ✓ | 3 |
| To advocate | ✓ | ✓ | ✓ | | ✓ | 4 |
| To counsel | ✓ | | | | ✓ | 2 |
| To provide feedback | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Trouble shooter | | | ✓ | ✓ | ✓ | 3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Role of the intern**[c] | | | | | | |
| Apprentice | ✓ | | | | | 1 |
| Collaborator | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Friend | ✓ | | | | | 1 |
| Observer | ✓ | ✓ | ✓ | | ✓ | 4 |
| Partner | | ✓ | ✓ | | | 2 |
| Source of knowledge | | ✓ | ✓ | | ✓ | 3 |
| To be ethical | | | | ✓ | | 1 |
| To be flexible | | ✓ | ✓ | ✓ | ✓ | 4 |
| To be professional | | | | ✓ | | 1 |
| To defer | ✓ | | | | | 1 |
| To provide feedback | | ✓ | | | ✓ | 2 |
| To provide respect | | ✓ | ✓ | | | 2 |
| To provide support | ✓ | ✓ | ✓ | | | 3 |
| Willingness to learn | | ✓ | ✓ | ✓ | ✓ | 4 |
| **Goal of the internship**[d] | | | | | | |
| Apprenticeship | ✓ | | | | | 1 |
| Cognitive development | | | | | ✓ | 1 |
| Emotional development | ✓ | | | ✓ | ✓ | 3 |
| Knowledge development | | ✓ | | ✓ | ✓ | 3 |
| Pedagogical development | | ✓ | ✓ | ✓ | ✓ | 4 |
| Professional socialization | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| School environment familiarity | ✓ | | ✓ | | | 2 |
| Skill development | ✓ | ✓ | ✓ | ✓ | ✓ | 5 |
| Teacher preparation | | ✓ | ✓ | ✓ | | 3 |
| To promote professional abilities | | ✓ | ✓ | | | 2 |
| **Totals** | 19 | 21 | 21 | 17 | 23 | 37 |

[a]Items in this section are prefaced with "I am a person who…"
[b]Items in this section are prefaced with "The role of the mentor is…"
[c]Items in this section are prefaced with "The role of the intern is…"
[d]Items in this section are prefaced with "The goal of the internship is…"

# Appendix E

## Notes and Decision Criteria Used During the Intermediate Phase


Personality (31)
20
334 → 100
Personality
P.O. Openness
5
1 4 Is original, comes up with new ideas
2 3 Likes to reflect, play with ideas
3 Values artistic, aesthetic experiences
4 2 Has an active imagination (Use 1+2)
5 Is curious about many different things (Mentor)
6 Prefers work that is routine
1
P.C. Conscientiousness
5
1 4 Is easily distracted
2 Makes plans and follows through with them
3 3 Does a thorough job
4 Perserveres until the task is finished
5 2 Does things efficiently (Use 6)
6 Tends to be disorganized (Intern)
7 1 Is a reliable worker → Not enough support
P.E. Extraversion
1 5 Has an assertive personality
2 Is outgoing, sociable
3 Is sometimes shy, inhibited
4
4 3 Generates a lot of enthusiasm
5 Is full of energy
6 Is reserved (Use 8)
7 Is talkative (Use 8)
8 Tends to be quiet
2
1
P.A. Agreeableness
5
4
3
1 2 Has a forgiving nature
2 Is generally trusting
Cut Agreeableness for not enough support?
3 1 Likes to cooperate with others → Not enough support
P.N. Neuroticism
1 5 Is relaxed, handles stress well
2 4 Can be moody
3 3 Remains calm in tense situations (Intern)
4 2 Gets nervous easily
5 Is emotionally stable, not easily upset (Use 1)
6 1 Can be tense → Not enough support
7 Worries a lot → Not enough support

Relationship 1 (86)

Relationship Skills

R.C. Communication

5

4

3 Adjusts vocabulary for audience 1-3-5 → With (R.P.10) 4-agreement

2 Uses appropriate language with students 1-4-5 (Use R.P.21)

} These are almost the same keep only 1?

2 Adjusts formality for audience 1-5 (Use 1)

4 Exhibits engaging isntruction 2-5 Same? Adds to 4agreement.

5 Exhibits clear instruction 3-4 → (Use A.I.13)

6 Improves own written language skills 3-5

7 Employs gestural communication modes (Can use body language effectively) → Better language

1 Can respond effectively to students 2* → With (13+16) 3-agreement

9 Employs audio-visual communication modes

10 Employs linguistic communication modes } (use 7)

11 Improves own oral language skills (use 6)

12 Is concise 2 (use 4 or 5)

13 Practices respectful debating skills 5* (Use 8) → This will correlate too strongly with R.D.

14 Uses correct syntax 5

15 Uses proper grammar in written communication 5 } (use 6)

16 Uses effective questioning 3* → Combine 8,13,16 for 3agreement - which language? → covered by (A.I.)

17 Uses subject specific vocabulary 4 (use 1, 2, or 3)

R.D. Diversity & Equity

5

4

3 Addresses educational inequalities 2-3-5 → With (21) 4-agreement

2 Facilitates social itegration for students with learning disabilities 2-3-5 (Use A.I.10)

3 Incorporates diverse cultural backgrounds 2-3-5 → With (11) 5-agreement (Covered by A.K.2 + A.P.2)

4 Is sensitive to individual diversity 2-3-5 → With (13) 4-agreement

2 Avoids discrimination towards students 4-5 (Use 8) (Mentor)

6 Builds positive relationships 1-4 → With (R.P.14+15) 4-agreement → maybe use "Maintains"

7 Expects respect of religion 1-3 (Use 8)

8 Promotes anti-oppresive education 2-5 } Combines with (7) 5-agreement (Intern)

9 Promotes anti-racisit education 4-5 (Mentor)

10 Supports whole-student growth 3-5 → With (20) 3-agreement

11 Understands diverse cultural backgrounds 1-4 (Use 3)

12 Understands exceptionality 3-5

13 Uses inclusive instructional strategies 3-5 → With (22) 3-agreement

14 Uses services to meet learning needs 3-4 → With (24) 3-agreement (Use A.M.15)

1 Builds on multi-lingual resources 5 (Use 19?)

Relationship 2

16 ~~Identifies effects of socio-economic status~~ 1 (Use 1)
17 ~~Implements individualized education plans~~ 0 (Covered by 1 and 12) → Also not enough support
18 ~~Proposes learning tasks for less able students~~ 3 (Use 2?) (Covered by 13 + R.P.3)
19 ~~Supports English language learners~~ 1 → with (15) 2-agreement (Covered by 13 + R.P.3)
20 ~~Supports student self-worth~~ 4 (Use 10)
21 ~~Understands educational inequalities~~ 1 (Use 1)
22 ~~Understands inclusive education~~ 4 (Use 13)
23 ~~Understands my own teaching values~~ 1 (Use R.P. 13)
24 ~~Uses services to meet learning difficulties~~ 5 (Use 14)

R.P. Professionalism

5

1 4 Responds positively to constructive criticism 1-2-4-5
2 ~~Takes initiative~~ 1-3-4-5 (Use A.M.8)

3 3 ~~Collaborates to advance professional practice~~ 1-4-5 → with 29 4-agreement (Use R.R.2)
4 ~~Incorporates constructive criticism into practice~~ 1-3-5 (Use 1)
5 ~~Is dependable~~ 2-4-5 (Covered by P.C.)
6 ~~Is enthusiastic~~ 1-2-5 → Use (P.E.5)
7 ~~Is observant~~ 2-4-5
8 ~~Is punctual~~ 2-4-5
9 ~~Respects confidentiality~~ 2-4-5 (Use 16)
10 ~~Uses professional language~~ 3-4-5 → Fits with communication? (Use R.C.1)

6

11 2 ~~Advocates for learners~~ (Covered by A.M.5) (Intern)
12 ~~Advocates for the profession~~ → Out of the scope
13 Assumes a (understands the) teacher role 2-5 → with (R.D.23 + R.R.11) 4-agreement → use alternate language
14 ~~Builds relationships with peers~~ 2-3 (Intern)
15 ~~Builds relationships with supervisors~~ 2-3 } (Use R.D.8) (Intern)
16 ~~Demonstrates integrity regarding professional ethics~~ 2-5 (Covered by the rest of the factor)
17 ~~Engages in inquiry~~ → Too vague
18 ~~Has a commitment to professional standards~~ 3-5 → With (23) 4-agreement (Covered by the rest of the factor)
19 Has a positive attitude 2-5
20 ~~Interacts professionally with parents~~ 2-5 (Use A.M.6)
21 ~~Interacts professionally with students~~ 2-4 → With R.C.2 4-agreement (Covered by Applied Skills)
22 ~~Is flexible~~ → Too vague
23 ~~Maintains a professional appearance~~ 2-4
24 Practices cooperative conflict resolution 2-3 (Intern)
25 ~~Shares (accepts) accountability~~ → Too vague

26 1 ~~Advocates for the community~~ 3 (Use A.M.4)
27 ~~Bases relationships on respect~~ 3 (Use R.D.8)
28 ~~Demonstrates a professional demeanour~~ 5 (Use 16)
29 ~~Engages in collaboration~~ 2 (Use 3)
30 ~~Engages in reflective practice~~ 3 (Use R.R.1)
31 ~~Understands educational legislation~~ 5 → out of the scope

Relationship 3

R.R. Reflection

| | | |
|---|---|---|
| | 5 | |
| 1 | 4 | Adjusts practices based on reflection 2-3-4-5 |
| 2 | 3 | Actively seeks professional growth 3-4-5 → with (5) 5-agreement |
| 3 | | Can justify teaching decisions 1-3-4 |
| 4 | | Has an established philosophy of education 1-2-5 |
| 5 | | ~~Participates in ongoing learning opportunities~~ 1-2-4 (Use 2) |
| 6 | | ~~Reflects on personal biases to understand gender variations~~ 1-2-5 (Use 8) |
| 7 | 2 | Links theory and practice 3-4 |
| 8 | | Reflects on personal biases to understand cultural variations 2-5 |
| 9 | | ~~Reflects on personal biases to understand learning variations~~ 1-5 → Covered by R.D.2? |
| 10 | 1 | ~~Aligns professional development with needs of students~~ 5 → out of the scope of the internship |
| 11 | | ~~Can communicate my professional identity~~ 5 (Use R.P.13) |
| 12 | | ~~Involves peers in research~~ 5 (Use R.P.3). |
| 13 | | ~~Reflects collaboratively with colleagues~~ 5 (Use R.P.3) |
| 14 | | ~~Reflects on personal biases to understand ethnic variations~~ 5 → (Use 8) |

Applied 1 (178)

35

Applied Skills

AA. Assessment

5

4

1 1 3 Communicates expected outcomes to students 1-4-5 → with (A.1. 35) 4-agreement
2 Continually assess student learning 1-2-4 → with (16) 4-agreement (Use A.I.1)
3 Designs evaluation tools 1-4-5 (Use 10)
3 4 Guides students to assess their own learning 2-4-5 } keep 1 of these (Use 4 → defer to teacher experience)
5 Guides students to assess their own thinking 1-3-5 }
4 6 Provides effective feedback 2-4-5 → with (8) 4-agreement
7 Provides feedback to parents 1-2-5 (Use 8)
4 8 Provides timely feedback 1-4-5 → with (7) 4-agreement (Use 6)
9 Uses a range of assessments techniques 1-4-5 (Use 2)

2 10 2 Designs assessments to support learning goals 3-5 → with (3+14) 4-agreement
11 Uses data to document learning 1-5 (Use 12)
12 Uses data to inform practice 1-4 → with (11+13) 4-agreement (Use A.I.1)
13 Uses formative data to guide instruction 3-5 (Use 12)
14 Writes (Plans) effective assessments 1-4 (Use 10)

15 1 Designs valid formative assessments 1 (Use 10)
16 Gathers information about student learning 5 (Use 2)
17 Implements accommodations in assessments 5 (Covered by 10)
18 Practices an effective reporting strategy 1 (Use 6)
19 Prepares learners for multiple assessment formats 5 (Use 1)
20 Uses appropriate evaluation 5 (Use 10)
21 Uses data to inform planning 5 (Use 12)
22 Uses fair techniques 2 (Use 10)

A.C. Classroom Management → Personality?

1 1 5 Adapts to a changing environment

2 2 4 Develops strategies to deal with behaviour issues
4 3 Involves students in setting classroom standards 3-4-5 → with (15) 5-agreement

3 4 3 Establishes appropriate classroom proceedures 2-3-5 → with (5) 5-agreement
5 Implements a classroom routine 1-4-5 (Use 4)
6 Promotes respect 1-2-4 → combine with (R.D.7) onto "Actively promotes respect of differences"?
↳ Too vague (covered elsewhere) ↳ move to R.D.

5(4) 7 2 Develops a classroom routine (Use 4) (Mentor)
8 Evaluates the learning environment with students 3-5 (Use 33)
9 Maintains a participatory environment 3-5 → with (18+27) 4-agreement (Use 3)
10 Maintains a positive classroom environment 4-5 (Use 2) (Mentor)
5 11 Organizes the physical environemnt 4-5 → with (16+22) 4-agreement (Mentor)
12 Promotes responsibility 2-5 → reconcile with (28) (Use 28)
13 Provides a secure social environment 3-5 → with (24) 3-agreement (Covered by R.D.)

Applied 2

19 ~~Reinforces classroom expectations~~ 2-5 (Use 3)

15 1 ~~Adjusts the learning environment with students~~ 1 (Use 3)
16 ~~Allocates classroom resources~~ 2 (Use 11)
17 ~~Communicates appropriate school behaviour~~ 4 → with (20) 2-agreement (Covered by 3+4)
18 ~~Contributes to the classroom community~~ 4 (Use 9)
19 ~~Develops strategies to prevent behaviour issues~~ 5 (Use 2)
20 ~~Enforces appropriate social behaviour~~ 5 (Use 17)
21 ~~Maintains positive rapport with students~~ 3 (Use 9)
22 ~~Manages the learning environment~~ 3 (Use 11)
23 ~~Promotes shared values~~ 2 (Use 3)
24 ~~Provides a secure cultural environment~~ 4 (Use 13)
25 ~~Provides a secure physical environment~~ 5 (Use 11)
26 ~~Provides a secure psychological environment~~ 5 (Use 13)
27 ~~Provides an environment that supports learners~~ 2 (Use 9)
28 ~~Provides an environment that supports responsibility~~ 5 → reconcile with (12) → (Use 3)

A.1.C Content Knowledge

1 1 5 Applies content to real world problems
3 2 Establishes cultural links to the subject

4

3 3 ~~Adopts a critical approach to the subject (change critical)~~ 1-3-5 (Covered by the rest of the factor)
4 ~~Can use multiple explanations~~ 1-2-4 (Use 5 or 20 or A.I.3)
5 ~~Embraces (considers) different viewpoints~~ 1-4-5 → reconcile with (4+20) → (Use 20) → this will correlate with (R.D.)
6 ~~Has knowledge of subject content~~ 2-4-5 (Covered by rest of factor)
4 7 Links content to existing knowledge 2-4 → with (19) 4-agreement
5 5 8 Uses subject specific methods of inquiry 2-3-4

9 2 ~~Can evaluate technology for accuracy~~ ERROR
10 ~~Has knowledge of curriculum expectations~~ 4-5 → with (13) 4-agreement (Use A.P.7) (Mentor)
11 ~~Modifies curriculum resources for appropriateness~~ 1-2 (Intern) → Out of the scope
12 ~~Questions content from multiple perspectives~~ 1-3 (Use 20) (Intern) → stronger language
13 ~~Uses subject specific standards of evidence~~ 1-2 (Use 10) (Intern)

19 1 ~~Analyzes content from multiple perspectives~~ 2 (Use 20)
15 ~~Applies content to interdisciplinary problems~~ 5 (Use 7?)
2 16 Can recognize student misconceptions 4 → with (21) 2-agreement
17 ~~Can use multiple representations~~ 5 (Use 4)
17 ~~Evaluates curriculum resources for accuracy~~ 2 → out of the scope
19 ~~Situates the subject's concepts~~ 5 (Use 7)
20 ~~Understands content from multiple perspectives~~ 1 → with (12) 2-agreement → reconcile with (4+5) (Use A.I.3)
21 ~~Can correct student misconceptions~~ 2 (Use 16)

A.1. Instruction

5

2 1 4 Monitors student learning to adapt instruction 1-3-5 → with (A.A.12) 5-agreement
↳ Move to (A.A.)

Applied 3

| | | | |
|---|---|---|---|
| | 2 | 3 | ~~Promotes questioning (Uses questioning techniques)~~ 1-4-5 (Use 14) |
| 4 | | 3 | ~~Provides multiple representations of concepts~~ 3-5 → very similar to (A.K.4 +20) 5-agreement |
| | | 4 | ~~Supports diverse social(/cultural) perspectives~~ 2-4-5 (Use A.K.2) |
| | | 5 | ~~Supports student literacy across content areas~~ 3-4-5 → with (21) 4-ageement (covered by A.K.) |
| | 6 | 2 | ~~Addresses individual needs~~ 2-5 (Use 1) (Intern) |
| | 7 | | ~~Develops student communication skills~~ 2-5 → with (11) 3-agreement (Use 14) |
| | 8 | | ~~Enables meaningful problem solving~~ 2-5 (Covered by A.K.1) |
| | 9 | | ~~Engages students in developing learning experiences~~ 1-5 (Use A.A.4 or 5) |
| 1 | 10 | | ~~Ensures participation of all students~~ 2-5 → with (A.M.12) 3-agreement |
| | 11 | | ~~Expands student communication through technology~~ 1-5 (Use 7) |
| 6(5) | 12 | | ~~Guides students to understand information~~ 2-5 → with (29) 3-agreement → Covered by (A.A.4+5) |
| 3 | 13 | | ~~Provides clear directions and explanations~~ 4-5 → with (P.C.5) 3-agreement (Mentor) |
| 5 | 14 | | ~~Stimulates discussion to probe understanding~~ 1-5 → with (2+18) 4-agreement |
| 6 | 15 | | ~~Uses a range of instruction techniques~~ 2-4 → with (16+20+90) 5-agreement |
| | 16 | | ~~Varies the teaching role to address the needs of learners~~ 1-2 (Use 15) (Intern) |
| | 17 | 1 | ~~Accounts for context~~ 5 → Too vague |
| | 18 | | ~~Asks relevant questions~~ 2 (Use 14) |
| | 19 | | ~~Builds on students prior experience~~ 5 (Use 7) |
| | 20 | | ~~Delivers instruction to address particular needs~~ 5 (Use 15) |
| | 21 | | ~~Emphasizes language development~~ 1 (Use 5) |
| | 22 | | ~~Encourages teamwork~~ 2 (Covered by 7+10) |
| | 23 | | ~~Engages learners in metacognition~~ 5 (Use 5) |
| | 24 | | ~~Enhances student social strengths~~ 5 (Use 4) |
| | 25 | | ~~Expands student communication through listening~~ 5 |
| | 26 | | ~~Expands student communication through reading~~ 5 |
| | 27 | | ~~Expands student communication through speaking~~ 5 (Use 7) |
| | 28 | | ~~Expands student communication through writing~~ 5 |
| | 29 | | ~~Guides students to interpret information~~ 1 (Use 12) |
| | 30 | | ~~Identifies student academic strengths~~ 5 (Use 1) |
| | 31 | | ~~Implements accommodations~~ 5 → Too vague |
| | 32 | | ~~Integrates supplementary resources~~ 5 (Use A.T.2) |
| | 33 | | ~~Modifies instruction based on developmental needs~~ 5 (Use 1) |
| | 34 | | ~~Promotes challenging of assumptions~~ 1 (Use 2) |
| | 35 | | ~~Provides clear communication of curriculum~~ 3 (Use A.A.1) |
| | 36 | | ~~Provides opportunities for learners to evaluate information~~ 5 (Use 12) |
| | 37 | | ~~Stimulates discussion to probe thinking~~ 5 (Use 14) |
| | 38 | | ~~Uses a range of planning techniques~~ 5 (Use A.P.3) |
| | 39 | | ~~Uses instructional groupings~~ 5 → Too vague |
| | 40 | | ~~Uses pedagogically sound teaching strategies~~ 3 (Use 15) |

A.M. Meta-teaching Activities

| | | |
|---|---|---|
| | 5 | |
| 1 | 4 | ~~Critically examines current issues~~ 1-3-5 (Use 3) |
| 2 | | ~~Situates practice within cultural issues~~ 1-3-5 (Use A.K.2) |

Applied 4

4 3 Situates practice within local issues 1-2-4-5 → with (9 + R.P.26) 5-agreement

4 3 ~~Connects with local communities~~ 2-4-5 → with (R.P.26) 4-agreement (Use 3)
5 ~~Contributes to school community~~ 2-4-5 → with (9) 4-agreement (covered by 8)
2 6 Encourages parent participation 2-4-5
7 ~~Participates in extra-curricular activities~~ 2-3-5 (Use 8)
3 8 Shows intiative beyond the classroom 2-4-5 → with (7 + R.P.2) 5-agreement
9 ~~Supports the vision of the school~~ 3-4-5 (Use 5)

4

10 2 ~~Collaborates in developing educational services~~ 1-2 → Out of the scope
11 ~~Collaborates in implementing educational services~~ 1-3 (Use 15)
12 ~~Connects across ability differences~~ 1-2
13 ~~Connects across race differences~~ 1-2 → with (18) 3-agreement } (Use A.I.10)
14 ~~Situates practice within political issues~~ 1-2 (covered by 2+3)
1 15 Works (collaborates) with school professionals to facilitate learning 3-5 → with (11 + R.D. 11) 4-agreement
16 Works with school professionals to plan learning 1-5 (Use 15) ↳ Move to (R.P) ↳ use alternate language

17 1 ~~Connects across class differences~~ 5 (Use A.I.10)
18 ~~Connects across ethnic differences~~ 5 (Use 13)
19 ~~Connects across family structure differences~~ 5 (Use 6)
20 ~~Connects across gender differences~~ 2 (Use R.R.6)
21 ~~Coordinates with school partners~~ 2 → Out of the scope
22 ~~Shows interest beyond the classroom~~ 3 (Use 8)
23 ~~Works to improve social conditions~~ 2 (Use 1)

A.P. Planning

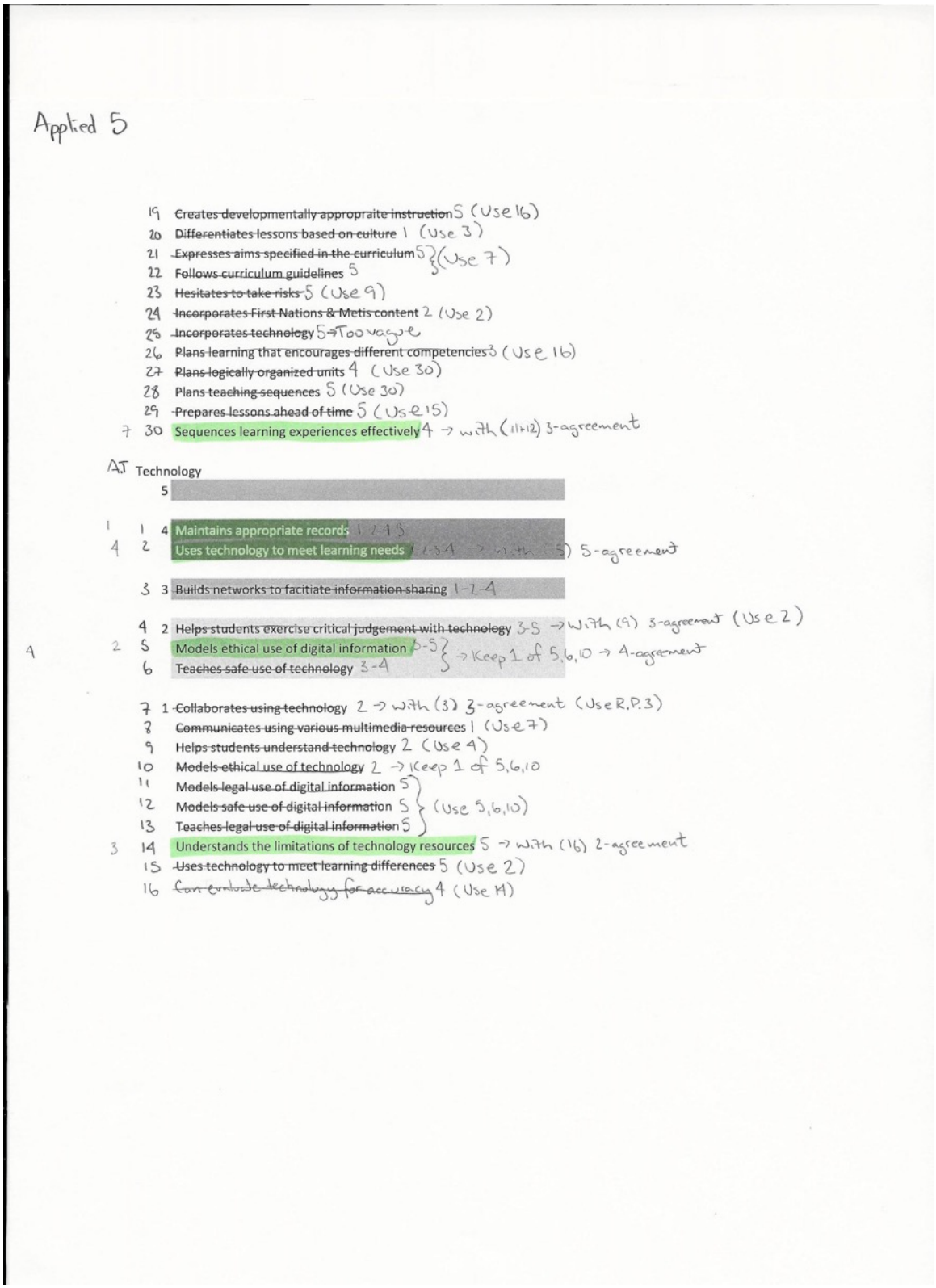
6 1 5 Plans multiple ways for students to demonstrate knowledge

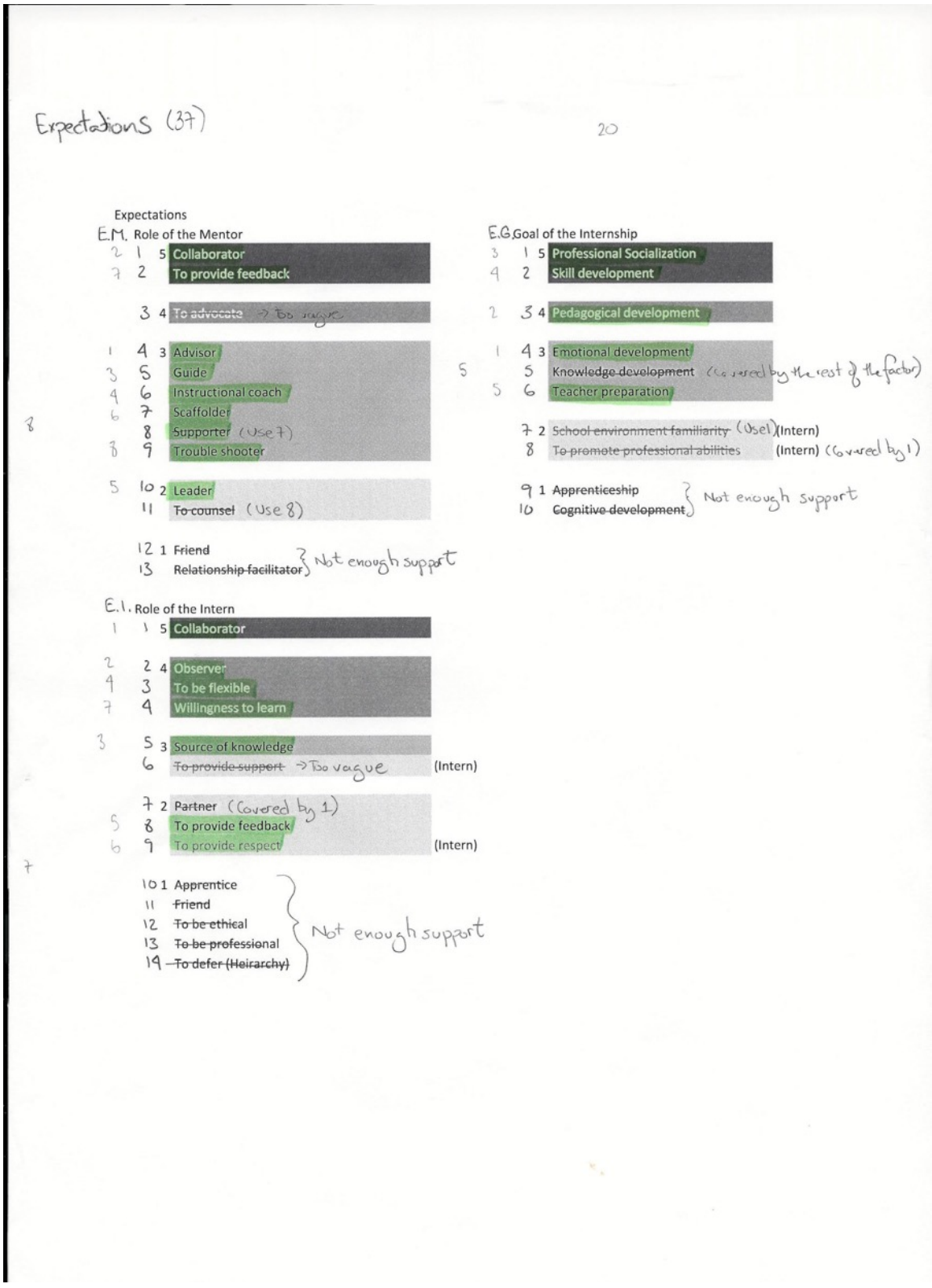
3 2 4 Incorporates First Nations & Metis perspectives 2-3-4-5
3 ~~Plans differentiated learning activities~~ 1-2-4-5 (Use 1)

4 3 ~~Plans for the long term (Can create semester plans)~~ 1-2-5 → Too vague + out of the scope
5 ~~Sets appropriate learning goals~~ 2-4-5 (Use 7)

6 2 ~~Adjusts plans to meet short-range goals~~ 1-5 (Use 15)
1 7 Aligns learning experiences with curriculum goals 3-4 → with (21 + A.K.10) 5-agreement
2 8 Anticipates obstacles to learning 4-5 take (Mentor)
7(5) 4 9 Doesn't like to (Is not afraid to) make mistakes (risks) 1-5
10 ~~Plans authentic lessons~~ 4-5 → Covered by (16 + A.M.3) (Mentor)
11 ~~Plans engaging lessons~~ 2-5 } (Use 30)
12 ~~Plans engaging units~~ 4-5 (Mentor)
13 ~~Plans for the medium term (Can create unit plans)~~ 1-5 (Use 4)
14 ~~Plans for the short term (Can create week plans)~~ 1-5 (Use 6)
5 15 Plans lessons daily 4-5 (Mentor)
16 ~~Plans multiple ways for students to demonstrate skills~~ 4-5 → with (26) (Mentor) 3-agreement (Use 1)

17 1 ~~Adjusts plans to meet long-range goals~~ 5 (Use 6)
18 ~~Creates detailed lesson plans~~ 5 (Use 8)


Applied 5
19 Creates developmentally appropraite instruction 5 (Use 16)
20 Differentiates lessons based on culture 1 (Use 3)
21 Expresses aims specified in the curriculum 5
22 Follows curriculum guidelines 5
(Use 7)
23 Hesitates to take risks 5 (Use 9)
24 Incorporates First Nations & Metis content 2 (Use 2)
25 Incorporates technology 5 → Too vague
26 Plans learning that encourages different competencies 3 (Use 16)
27 Plans logically organized units 4 (Use 30)
28 Plans teaching sequences 5 (Use 30)
29 Prepares lessons ahead of time 5 (Use 15)
7 30 Sequences learning experiences effectively 4 → with (11+12) 3-agreement
AJ Technology
5
1 1 4 Maintains appropriate records 1-2-4-5
4 2 Uses technology to meet learning needs 2-3-4 → with 5) 5-agreement
3 3 Builds networks to facitiate information-sharing 1-2-4
4 2 Helps students exercise critical judgement with technology 3-5 → With (9) 3-agreement (Use 2)
4 2 5 Models ethical use of digital information 3-5
6 Teaches safe use of technology 3-4
→ Keep 1 of 5,6,10 → 4-agreement
7 1 Collaborates using technology 2 → with (3) 3-agreement (Use R.P. 3)
8 Communicates using various multimedia resources 1 (Use 7)
9 Helps students understand technology 2 (Use 4)
10 Models ethical use of technology 2 → Keep 1 of 5,6,10
11 Models legal use of digital information 5
12 Models safe use of digital information 5
13 Teaches legal use of digital information 5
(Use 5,6,10)
3 14 Understands the limitations of technology resources 5 → with (16) 2-agreement
15 Uses technology to meet learning differences 5 (Use 2)
16 Can evaluate technology for accuracy 4 (Use 11)


Expectations (37)
20
Expectations
E.M. Role of the Mentor
Collaborator
To provide feedback
To advocate → Too vague
Advisor
Guide
Instructional coach
Scaffolder
Supporter (Use 7)
Trouble shooter
Leader
To counsel (Use 8)
Friend
Relationship facilitator
Not enough support
E.G. Goal of the Internship
Professional Socialization
Skill development
Pedagogical development
Emotional development
Knowledge development (Covered by the rest of the factor)
Teacher preparation
School environment familiarity (Use 1) (Intern)
To promote professional abilities (Intern) (Covered by 1)
Apprenticeship
Cognitive development
Not enough support
E.I. Role of the Intern
Collaborator
Observer
To be flexible
Willingness to learn
Source of knowledge
To provide support → Too vague (Intern)
Partner (Covered by 1.)
To provide feedback
To provide respect (Intern)
Apprentice
Friend
To be ethical
To be professional
To defer (Heirarchy)
Not enough support

## Appendix F

## The 100-Item Pilot Survey

**Personality**

**Openness**
Is curious about many different things
Is original, comes up with new ideas
Likes to reflect, play with ideas
Prefers work that is routine
Values artistic, aesthetic experiences

**Conscientiousness**
Does a thorough job
Is easily distracted
Makes plans and follows through with them
Perseveres until the task is finished
Tends to be disorganized

**Extraversion**
Generates a lot of enthusiasm
Has an assertive personality
Is full of energy
Is outgoing, sociable
Is sometimes shy, inhibited
Tends to be quiet

**Agreeableness**
Has a forgiving nature
Is generally trusting

**Neuroticism**
Can be moody
Gets nervous easily
Is relaxed, handles stress well
Remains calm in tense situations

**Relationship Skills**

**Communication**
Adjusts vocabulary for audience
Can respond effectively to students
Can use body language effectively
Exhibits engaging instruction
Improves my own written language skills

**Diversity & Equity**
Addresses educational inequalities
Builds positive relationships
Is sensitive to individual diversity
Promotes anti-oppressive education
Supports whole-student growth
Understands exceptionality

**Professionalism**
Has a positive attitude
Is observant
Is punctual
Practices cooperative conflict resolution
Responds positively to constructive criticism
Understands the teacher role

**Reflection**
Actively seeks professional growth
Adjusts practices based on reflection
Can justify my teaching decisions
Has an established philosophy of education
Links theory and practice
Reflects on my personal biases to understand cultural variations

**Applied Skills**

**Assessment**
Communicates expected outcomes to students
Designs assessments to support learning goals
Guides students to assess their own learning
Provides effective feedback

**Classroom Management**
Adapts to a changing environment
Develops strategies to deal with behaviour issues
Establishes appropriate classroom procedures
Involves students in setting classroom standards
Organizes the physical environment

**Content Knowledge**
Applies content to real world problems
Can recognize student misconceptions
Establishes cultural links to the subject
Links content to existing knowledge
Uses subject specific methods of inquiry

**Instruction**
Ensures participation of all students
Monitors student learning to adapt instruction
Provides clear directions and explanations
Provides multiple representations of concepts
Stimulates discussion to probe understanding
Uses a range of instruction techniques

| **Meta-Teaching Activities** | **Role of the Mentor** |
|---|---|
| Collaborates with school professionals to facilitate learning | Advisor |
| Encourages parent participation | Collaborator |
| Shows initiative beyond the classroom | Guide |
| Situates practice within local issues | Instructional coach |
| **Planning** | Leader |
| Aligns learning experiences with curriculum goals | Scaffolder |
| Anticipates obstacles to learning | To provide feedback |
| Incorporates First Nations & Métis perspectives | Trouble shooter |
| Is not afraid to take risks | **Role of the Intern** |
| Plans lessons daily | Collaborator |
| Plans multiple ways for students to demonstrate knowledge | Observer |
| Sequences learning experiences effectively | Source of knowledge |
| Aligns learning experiences with curriculum goals | To be flexible |
| **Technology** | To provide feedback |
| Maintains appropriate records | To provide respect |
| Models ethical use of digital information | Willingness to learn |
| Understands the limitations of technology resources | **Goal of the Internship** |
| Uses technology to meet learning needs | Emotional development |
| | Pedagogical development |
| **Expectations** | Professional Socialization |
| | Skill development |
| | Teacher preparation |

[a]Prefaced with "I am a person who…"
[b]Prefaced with "The goal of the internship is…"
[c]Prefaced with "The role of the intern is…"
[d]Prefaced with "The role of the mentor is…"

## Appendix G

## Descriptive Statistics for the 100-Item Pilot Survey

| **Personality**[a] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Item | Valid n | Mean | SEM | Mean 95% BCI | Std. Dev. | SESD | Std. Dev. 95% BCI | Skew | Kurtosis |
| Can be moody | 309 | 3.41 | 0.090 | [3.24, 3.59] | 1.56 | 0.051 | [1.46, 1.66] | 0.20 | -0.64 |
| Does a thorough job | 311 | 5.93 | 0.058 | [5.81, 6.04] | 1.02 | 0.061 | [0.93, 1.17] | -1.25 | 2.52 |
| Generates a lot of enthusiasm | 310 | 5.42 | 0.068 | [5.28, 5.55] | 1.22 | 0.057 | [1.12, 1.34] | -0.75 | 0.69 |
| Gets nervous easily | 310 | 4.21 | 0.096 | [4.03, 4.41] | 1.66 | 0.048 | [1.57, 1.76] | -0.06 | -0.86 |
| Has a forgiving nature | 310 | 5.77 | 0.067 | [5.63, 5.9] | 1.19 | 0.053 | [1.1, 1.31] | -1.00 | 0.61 |
| Has an assertive personality | 309 | 4.61 | 0.087 | [4.43, 4.77] | 1.56 | 0.055 | [1.46, 1.67] | -0.33 | -0.51 |
| Is curious about many different things | 311 | 5.87 | 0.064 | [5.73, 5.98] | 1.14 | 0.060 | [1.04, 1.28] | -1.10 | 1.52 |
| Is easily distracted | 311 | 3.96 | 0.088 | [3.79, 4.14] | 1.54 | 0.050 | [1.45, 1.65] | 0.10 | -0.56 |
| Is full of energy | 311 | 5.24 | 0.073 | [5.09, 5.38] | 1.3 | 0.056 | [1.2, 1.42] | -0.55 | 0.26 |
| Is generally trusting | 311 | 5.94 | 0.069 | [5.79, 6.07] | 1.21 | 0.068 | [1.09, 1.36] | -1.39 | 2.01 |
| Is original, comes up with new ideas | 310 | 5.11 | 0.068 | [4.96, 5.23] | 1.17 | 0.050 | [1.08, 1.28] | -0.43 | 0.30 |
| Is outgoing, sociable | 311 | 5.39 | 0.080 | [5.22, 5.54] | 1.43 | 0.064 | [1.32, 1.58] | -0.86 | 0.38 |
| Is relaxed, handles stress well | 310 | 4.64 | 0.083 | [4.47, 4.8] | 1.48 | 0.054 | [1.38, 1.6] | -0.48 | -0.30 |
| Is sometimes shy, inhibited | 311 | 3.93 | 0.091 | [3.75, 4.1] | 1.62 | 0.050 | [1.52, 1.72] | -0.06 | -0.81 |
| Likes to reflect, play with ideas | 310 | 5.51 | 0.075 | [5.37, 5.66] | 1.32 | 0.050 | [1.23, 1.43] | -0.70 | -0.20 |
| Makes plans and follows through with them | 308 | 5.72 | 0.065 | [5.59, 5.84] | 1.14 | 0.056 | [1.05, 1.27] | -0.97 | 0.94 |
| Perseveres until the task is finished | 310 | 5.79 | 0.066 | [5.64, 5.91] | 1.18 | 0.063 | [1.08, 1.33] | -1.11 | 1.68 |
| Prefers work that is routine | 311 | 4.65 | 0.087 | [4.48, 4.82] | 1.51 | 0.057 | [1.41, 1.63] | -0.33 | -0.32 |
| Remains calm in tense situations | 310 | 5.17 | 0.076 | [5.01, 5.31] | 1.34 | 0.056 | [1.24, 1.46] | -0.67 | 0.19 |
| Tends to be disorganized | 310 | 3 | 0.093 | [2.82, 3.18] | 1.67 | 0.057 | [1.56, 1.79] | 0.55 | -0.65 |
| Tends to be quiet | 311 | 3.84 | 0.095 | [3.65, 4.04] | 1.66 | 0.054 | [1.57, 1.77] | 0.07 | -0.72 |
| Values artistic, aesthetic experiences | 311 | 5.27 | 0.084 | [5.09, 5.42] | 1.49 | 0.053 | [1.4, 1.6] | -0.58 | -0.44 |
| **Relationship Skills**[a] | | | | | | | | | |
| Item | Valid n | Mean | SEM | Mean 95% BCI | Std Dev | SESD | Std. Dev. 95% BCI | Skew | Kurtosis |
| Actively seeks professional growth | 306 | 6.12 | 0.056 | [6, 6.22] | 0.99 | 0.063 | [0.88, 1.15] | -1.48 | 3.28 |
| Addresses educational inequalities | 306 | 5.69 | 0.062 | [5.57, 5.81] | 1.10 | 0.054 | [1.01, 1.23] | -0.90 | 0.90 |
| Adjusts practices based on reflection | 304 | 5.99 | 0.057 | [5.88, 6.1] | 0.98 | 0.047 | [0.9, 1.09] | -0.91 | 0.71 |
| Adjusts vocabulary for audience | 306 | 5.69 | 0.061 | [5.56, 5.8] | 1.07 | 0.049 | [0.98, 1.17] | -0.86 | 0.73 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Builds positive relationships | 306 | 6.38 | 0.049 | [6.28, 6.47] | 0.83 | 0.073 | [0.72, 1.04] | -2.06 | 7.68 |
| Can justify my teaching decisions | 306 | 5.84 | 0.051 | [5.73, 5.93] | 0.89 | 0.047 | [0.82, 1.01] | -0.78 | 1.40 |
| Can respond effectively to students | 303 | 5.9 | 0.053 | [5.79, 6] | 0.91 | 0.047 | [0.83, 1.02] | -0.82 | 1.36 |
| Can use body language effectively | 306 | 5.65 | 0.062 | [5.52, 5.76] | 1.10 | 0.057 | [1, 1.24] | -0.90 | 1.17 |
| Exhibits engaging instruction | 306 | 5.79 | 0.056 | [5.67, 5.9] | 0.96 | 0.056 | [0.88, 1.11] | -0.94 | 2.08 |
| Has a positive attitude | 306 | 6.22 | 0.059 | [6.09, 6.33] | 1.01 | 0.079 | [0.88, 1.2] | -1.98 | 5.27 |
| Has an established philosophy of education | 305 | 5.39 | 0.067 | [5.26, 5.53] | 1.18 | 0.051 | [1.09, 1.3] | -0.61 | 0.16 |
| Improves my own written language skills | 306 | 5.56 | 0.071 | [5.42, 5.69] | 1.25 | 0.061 | [1.14, 1.38] | -0.97 | 0.89 |
| Is observant | 305 | 5.92 | 0.064 | [5.79, 6.05] | 1.09 | 0.060 | [0.99, 1.23] | -1.16 | 1.79 |
| Is punctual | 306 | 6.06 | 0.067 | [5.92, 6.18] | 1.17 | 0.064 | [1.05, 1.31] | -1.41 | 1.92 |
| Is sensitive to individual diversity | 306 | 6.01 | 0.057 | [5.88, 6.11] | 1.02 | 0.057 | [0.93, 1.17] | -1.13 | 1.89 |
| Links theory and practice | 305 | 5.3 | 0.067 | [5.16, 5.42] | 1.16 | 0.051 | [1.07, 1.28] | -0.63 | 0.53 |
| Practices cooperative conflict resolution | 306 | 5.64 | 0.061 | [5.52, 5.75] | 1.05 | 0.046 | [0.97, 1.16] | -0.67 | 0.28 |
| Promotes anti-oppressive education | 306 | 6.13 | 0.059 | [6.01, 6.25] | 1.01 | 0.051 | [0.93, 1.13] | -1.21 | 1.42 |
| Reflects on my personal biases to understand cultural variations | 306 | 5.86 | 0.063 | [5.72, 5.97] | 1.09 | 0.069 | [0.98, 1.26] | -1.26 | 2.80 |
| Responds positively to constructive criticism | 305 | 5.84 | 0.060 | [5.72, 5.96] | 1.03 | 0.049 | [0.95, 1.14] | -0.90 | 0.87 |
| Supports whole-student growth | 306 | 6.23 | 0.048 | [6.13, 6.32] | 0.84 | 0.046 | [0.77, 0.96] | -1.10 | 1.80 |
| Understands exceptionality | 306 | 5.72 | 0.064 | [5.59, 5.83] | 1.10 | 0.044 | [1.02, 1.19] | -0.64 | -0.08 |
| Understands the teacher role | 304 | 6.16 | 0.049 | [6.06, 6.25] | 0.82 | 0.043 | [0.75, 0.94] | -0.97 | 1.66 |
| **Applied Skills**[a] | | | | | | | | | |
| Item | Valid n | Mean | SEM | Mean 95% BCI | Std Dev | SESD | Std. Dev. 95% BCI | Skew | Kurtosis |
| Adapts to a changing environment | 299 | 5.82 | 0.058 | [5.7, 5.93] | 0.99 | 0.059 | [0.9, 1.14] | -0.99 | 2.25 |
| Aligns learning experiences with curriculum goals | 299 | 6.12 | 0.054 | [6.02, 6.22] | 0.91 | 0.067 | [0.81, 1.1] | -1.58 | 4.65 |
| Anticipates obstacles to learning | 298 | 5.48 | 0.060 | [5.36, 5.59] | 1.02 | 0.041 | [0.94, 1.1] | -0.38 | -0.05 |
| Applies content to real world problems | 298 | 5.88 | 0.062 | [5.75, 6] | 1.07 | 0.059 | [0.98, 1.22] | -1.08 | 1.59 |
| Can recognize student misconceptions | 299 | 5.47 | 0.061 | [5.34, 5.59] | 1.07 | 0.055 | [0.97, 1.19] | -0.66 | 1.18 |
| Collaborates with school professionals to facilitate learning | 299 | 5.83 | 0.068 | [5.7, 5.96] | 1.16 | 0.058 | [1.06, 1.29] | -1.04 | 1.03 |
| Communicates expected outcomes to | 299 | 5.54 | 0.068 | [5.4, 5.67] | 1.21 | 0.062 | [1.09, 1.33] | -0.99 | 1.18 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| students | | | | | | | | | |
| Designs assessments to support learning goals | 299 | 5.77 | 0.057 | [5.66, 5.88] | 0.99 | 0.043 | [0.91, 1.08] | -0.67 | 0.32 |
| Develops strategies to deal with behaviour issues | 299 | 5.48 | 0.069 | [5.34, 5.61] | 1.18 | 0.057 | [1.08, 1.31] | -0.85 | 0.87 |
| Encourages parent participation | 299 | 5.22 | 0.079 | [5.06, 5.37] | 1.38 | 0.060 | [1.27, 1.51] | -0.75 | 0.33 |
| Ensures participation of all students | 299 | 5.95 | 0.060 | [5.83, 6.06] | 1.03 | 0.056 | [0.94, 1.17] | -1.12 | 1.84 |
| Establishes appropriate classroom procedures | 298 | 5.88 | 0.056 | [5.77, 5.99] | 1.02 | 0.050 | [0.93, 1.13] | -0.87 | 0.84 |
| Establishes cultural links to the subject | 298 | 5.53 | 0.068 | [5.39, 5.66] | 1.16 | 0.058 | [1.06, 1.3] | -0.82 | 1.08 |
| Guides students to assess their own learning | 299 | 5.46 | 0.067 | [5.32, 5.59] | 1.16 | 0.061 | [1.06, 1.31] | -0.92 | 1.27 |
| Incorporates First Nations & Métis perspectives | 299 | 5.56 | 0.073 | [5.41, 5.7] | 1.27 | 0.051 | [1.18, 1.39] | -0.65 | -0.19 |
| Involves students in setting classroom standards | 299 | 5.8 | 0.061 | [5.68, 5.92] | 1.08 | 0.056 | [0.99, 1.22] | -1.01 | 1.41 |
| Is not afraid to take risks | 299 | 5.49 | 0.076 | [5.34, 5.65] | 1.31 | 0.059 | [1.21, 1.43] | -0.85 | 0.41 |
| Links content to existing knowledge | 299 | 5.99 | 0.053 | [5.89, 6.09] | 0.93 | 0.053 | [0.84, 1.06] | -1.11 | 1.96 |
| Maintains appropriate records | 298 | 5.47 | 0.062 | [5.35, 5.6] | 1.10 | 0.046 | [1.01, 1.2] | -0.48 | 0.02 |
| Models ethical use of digital information | 299 | 5.7 | 0.063 | [5.57, 5.82] | 1.09 | 0.058 | [1, 1.23] | -0.92 | 1.43 |
| Monitors student learning to adapt instruction | 299 | 5.8 | 0.056 | [5.68, 5.9] | 0.96 | 0.053 | [0.88, 1.09] | -0.96 | 1.74 |
| Organizes the physical environment | 298 | 5.72 | 0.069 | [5.58, 5.86] | 1.19 | 0.057 | [1.1, 1.33] | -0.91 | 0.64 |
| Plans lessons daily | 299 | 5.59 | 0.073 | [5.44, 5.72] | 1.27 | 0.061 | [1.17, 1.41] | -0.91 | 0.79 |
| Plans multiple ways for students to demonstrate knowledge | 299 | 5.81 | 0.057 | [5.69, 5.92] | 0.98 | 0.047 | [0.9, 1.09] | -0.80 | 0.93 |
| Provides clear directions and explanations | 297 | 5.76 | 0.054 | [5.66, 5.87] | 0.94 | 0.048 | [0.86, 1.06] | -0.73 | 1.11 |
| Provides effective feedback | 298 | 5.71 | 0.061 | [5.59, 5.83] | 1.04 | 0.058 | [0.94, 1.18] | -1.01 | 1.80 |
| Provides multiple representations of concepts | 298 | 5.49 | 0.058 | [5.38, 5.6] | 1.02 | 0.046 | [0.94, 1.11] | -0.55 | 0.43 |
| Sequences learning experiences effectively | 299 | 5.5 | 0.058 | [5.39, 5.61] | 0.99 | 0.040 | [0.92, 1.07] | -0.38 | -0.07 |
| Shows initiative beyond the classroom | 299 | 5.89 | 0.064 | [5.76, 6] | 1.11 | 0.061 | [1, 1.25] | -1.12 | 1.63 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Situates practice within local issues | 299 | 5.34 | 0.064 | [5.21, 5.46] | 1.11 | 0.045 | [1.03, 1.22] | -0.43 | -0.03 |
| Stimulates discussion to probe understanding | 299 | 5.97 | 0.055 | [5.86, 6.07] | 0.96 | 0.053 | [0.88, 1.1] | -0.93 | 1.76 |
| Understands the limitations of technology resources | 299 | 5.7 | 0.068 | [5.56, 5.82] | 1.17 | 0.059 | [1.07, 1.32] | -0.97 | 1.05 |
| Uses a range of instruction techniques | 299 | 5.81 | 0.064 | [5.67, 5.92] | 1.09 | 0.064 | [0.98, 1.24] | -1.28 | 2.39 |
| Uses subject specific methods of inquiry | 298 | 5.27 | 0.071 | [5.13, 5.4] | 1.23 | 0.064 | [1.11, 1.36] | -0.83 | 1.24 |
| Uses technology to meet learning needs | 298 | 5.59 | 0.068 | [5.46, 5.72] | 1.19 | 0.058 | [1.08, 1.31] | -0.87 | 0.76 |

**Expectations**

| Item | Valid n | Mean | SEM | Mean 95% BCI | Std Dev | SESD | Std. Dev. 95% BCI | Skew | Kurtosis |
|---|---|---|---|---|---|---|---|---|---|
| Advisor[b] | 298 | 6.19 | 0.060 | [6.06, 6.3] | 1.00 | 0.047 | [0.92, 1.1] | -1.13 | 0.59 |
| Collaborator[b] | 298 | 6.3 | 0.060 | [6.17, 6.41] | 0.99 | 0.062 | [0.9, 1.16] | -1.61 | 3.03 |
| Guide[b] | 298 | 6.23 | 0.054 | [6.11, 6.33] | 0.96 | 0.052 | [0.87, 1.08] | -1.24 | 1.49 |
| Instructional coach[b] | 297 | 5.9 | 0.068 | [5.76, 6.03] | 1.21 | 0.054 | [1.11, 1.33] | -1.00 | 0.44 |
| Leader[b] | 297 | 5.56 | 0.083 | [5.39, 5.71] | 1.42 | 0.058 | [1.32, 1.54] | -0.80 | 0.03 |
| Scaffolder[b] | 297 | 5.73 | 0.068 | [5.58, 5.85] | 1.19 | 0.056 | [1.1, 1.33] | -0.83 | 0.60 |
| To provide feedback[b] | 298 | 6.6 | 0.039 | [6.52, 6.67] | 0.70 | 0.046 | [0.62, 0.81] | -1.80 | 3.25 |
| Trouble shooter[b] | 298 | 5.13 | 0.085 | [4.95, 5.29] | 1.46 | 0.057 | [1.36, 1.58] | -0.54 | -0.15 |
| Collaborator[c] | 297 | 6.61 | 0.047 | [6.5, 6.68] | 0.82 | 0.099 | [0.66, 1.09] | -3.30 | 15.60 |
| Observer[c] | 297 | 5.23 | 0.107 | [5.01, 5.44] | 1.86 | 0.070 | [1.73, 2] | -0.86 | -0.31 |
| Source of knowledge[c] | 297 | 5.43 | 0.077 | [5.27, 5.57] | 1.33 | 0.058 | [1.22, 1.45] | -0.74 | 0.27 |
| To be flexible[c] | 297 | 6.59 | 0.043 | [6.5, 6.67] | 0.74 | 0.047 | [0.66, 0.84] | -1.84 | 2.73 |
| To provide feedback[c] | 296 | 5.37 | 0.090 | [5.18, 5.54] | 1.55 | 0.064 | [1.43, 1.68] | -0.78 | 0.00 |
| To provide respect[c] | 297 | 6.59 | 0.053 | [6.47, 6.69] | 0.89 | 0.081 | [0.75, 1.09] | -2.73 | 8.44 |
| Willingness to learn[c] | 297 | 6.88 | 0.021 | [6.83, 6.91] | 0.38 | 0.046 | [0.31, 0.5] | -3.63 | 16.30 |
| Emotional development[d] | 297 | 5.88 | 0.081 | [5.71, 6.03] | 1.40 | 0.081 | [1.25, 1.56] | -1.48 | 2.03 |
| Pedagogical development[d] | 298 | 6.56 | 0.049 | [6.45, 6.65] | 0.86 | 0.096 | [0.71, 1.12] | -3.12 | 13.84 |
| Professional Socialization[d] | 296 | 6.15 | 0.070 | [6, 6.28] | 1.20 | 0.070 | [1.07, 1.35] | -1.52 | 1.90 |
| Skill development[d] | 298 | 6.72 | 0.043 | [6.61, 6.79] | 0.71 | 0.099 | [0.57, 0.99] | -3.91 | 21.43 |
| Teacher preparation[d] | 298 | 6.76 | 0.039 | [6.66, 6.82] | 0.66 | 0.100 | [0.51, 0.92] | -4.29 | 25.26 |

[a]Items in this section are prefaced with "I am a person who…"
[b]Prefaced with "The goal of the internship is…"
[c]Prefaced with "The role of the intern is…"

[d]Prefaced with “The role of the mentor is…”

# Appendix H

## Correlation Matrices for the 100-Item Pilot Survey

**Correlation Matrix for Personality Traits**[a]

| Trait | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Can be moody | - | | | | | | | | | | | |
| 2 | Does a thorough job | -0.10 | - | | | | | | | | | | |
| 3 | Generates a lot of enthusiasm | -0.16 | 0.20 | - | | | | | | | | | |
| 4 | Gets nervous easily | 0.17 | -0.01 | -0.09 | - | | | | | | | | |
| 5 | Has a forgiving nature | -0.21 | 0.09 | 0.22 | 0.09 | - | | | | | | | |
| 6 | Has an assertive personality | 0.00 | 0.10 | 0.14 | -0.26 | 0.01 | - | | | | | | |
| 7 | Is curious about many different things | -0.05 | 0.21 | 0.22 | -0.07 | 0.15 | 0.17 | - | | | | | |
| 8 | Is easily distracted | 0.24 | -0.14 | 0.07 | 0.13 | 0.03 | -0.07 | 0.10 | - | | | | |
| 9 | Is full of energy | -0.17 | 0.19 | 0.53 | -0.19 | 0.12 | 0.21 | 0.25 | 0.01 | - | | | |
| 10 | Is generally trusting | -0.23 | 0.12 | 0.26 | 0.05 | 0.37 | -0.05 | 0.07 | -0.03 | 0.12 | - | | |
| 11 | Is original, comes up with new ideas | -0.09 | 0.22 | 0.33 | -0.12 | 0.11 | 0.18 | 0.32 | 0.03 | 0.29 | 0.04 | - | |
| 12 | Is outgoing, sociable | -0.21 | 0.11 | 0.49 | -0.23 | 0.16 | 0.29 | 0.16 | 0.01 | 0.53 | 0.15 | 0.24 | - |
| 13 | Is relaxed, handles stress well | -0.26 | 0.07 | 0.13 | -0.28 | 0.15 | 0.19 | 0.18 | -0.09 | 0.19 | 0.03 | 0.12 | 0.14 |
| 14 | Is sometimes shy, inhibited | 0.17 | -0.02 | -0.25 | 0.44 | 0.04 | -0.25 | -0.03 | 0.06 | -0.31 | 0.04 | -0.22 | -0.36 |
| 15 | Likes to reflect, play with ideas | -0.10 | 0.25 | 0.28 | -0.05 | 0.17 | 0.16 | 0.35 | 0.04 | 0.21 | 0.11 | 0.31 | 0.17 |
| 16 | Makes plans and follows through with them | -0.12 | 0.29 | 0.11 | -0.01 | 0.11 | 0.04 | 0.09 | -0.19 | 0.10 | 0.20 | 0.09 | 0.09 |
| 17 | Perseveres until the task is finished | -0.10 | 0.33 | 0.05 | 0.01 | 0.05 | 0.15 | 0.16 | -0.14 | 0.07 | 0.09 | 0.19 | 0.08 |
| 18 | Prefers work that is routine | 0.06 | 0.13 | 0.04 | 0.08 | 0.07 | 0.08 | -0.03 | -0.05 | 0.00 | 0.18 | -0.05 | -0.01 |
| 19 | Remains calm in tense situations | -0.25 | 0.12 | 0.14 | -0.27 | 0.11 | 0.16 | 0.26 | -0.06 | 0.19 | 0.05 | 0.20 | 0.14 |
| 20 | Tends to be disorganized | 0.18 | -0.22 | -0.01 | 0.08 | 0.04 | -0.03 | 0.15 | 0.31 | 0.00 | -0.19 | 0.00 | 0.03 |
| 21 | Tends to be quiet | 0.09 | 0.03 | -0.33 | 0.34 | 0.07 | -0.27 | -0.08 | 0.03 | -0.32 | 0.00 | -0.13 | -0.43 |
| 22 | Values artistic, aesthetic experiences | -0.02 | 0.17 | 0.15 | 0.05 | 0.16 | 0.01 | 0.28 | 0.11 | 0.09 | 0.12 | 0.32 | 0.03 |

**Correlation Matrix for Personality Traits (Continued)**[a]

| Traits | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Is relaxed, handles stress well | - | | | | | | | | | |
| 14 | Is sometimes shy, inhibited | -0.15 | - | | | | | | | | |
| 15 | Likes to reflect, play with ideas | 0.19 | -0.09 | - | | | | | | | |
| 16 | Makes plans and follows through with them | 0.15 | -0.02 | 0.06 | - | | | | | | |
| 17 | Perseveres until the task is finished | 0.06 | 0.01 | 0.15 | 0.35 | - | | | | | |
| 18 | Prefers work that is routine | -0.06 | 0.08 | -0.03 | 0.13 | 0.08 | - | | | | |
| 19 | Remains calm in tense situations | 0.53 | -0.13 | 0.22 | 0.15 | 0.11 | -0.05 | - | | | |
| 20 | Tends to be disorganized | -0.04 | 0.06 | 0.05 | -0.27 | -0.22 | -0.16 | -0.01 | - | | |
| 21 | Tends to be quiet | -0.06 | 0.50 | -0.11 | 0.07 | 0.10 | 0.03 | -0.07 | 0.00 | - | |
| 22 | Values artistic, aesthetic experiences | -0.03 | 0.07 | 0.18 | 0.02 | 0.05 | -0.01 | 0.08 | 0.01 | 0.06 | - |

[a]All traits are prefaced with "I am a person who…"

**Correlation Matrix for Relationship Skills Traits**[a]

| Trait | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Actively seeks professional growth | - | | | | | | | | | | | |
| 2 | Addresses educational inequalities | 0.36 | - | | | | | | | | | | |
| 3 | Adjusts practices based on reflection | 0.38 | 0.37 | - | | | | | | | | | |
| 4 | Adjusts vocabulary for audience | 0.30 | 0.37 | 0.32 | - | | | | | | | | |
| 5 | Builds positive relationships | 0.26 | 0.31 | 0.34 | 0.32 | - | | | | | | | |
| 6 | Can justify my teaching decisions | 0.25 | 0.34 | 0.39 | 0.41 | 0.35 | - | | | | | | |
| 7 | Can respond effectively to students | 0.30 | 0.40 | 0.41 | 0.40 | 0.41 | 0.43 | - | | | | | |
| 8 | Can use body language effectively | 0.29 | 0.35 | 0.31 | 0.42 | 0.28 | 0.40 | 0.40 | - | | | | |
| 9 | Exhibits engaging instruction | 0.40 | 0.37 | 0.34 | 0.39 | 0.43 | 0.44 | 0.53 | 0.45 | - | | | |
| 10 | Has a positive attitude | 0.36 | 0.32 | 0.29 | 0.37 | 0.45 | 0.30 | 0.38 | 0.37 | 0.39 | - | | |
| 11 | Has an established philosophy of education | 0.29 | 0.29 | 0.30 | 0.26 | 0.31 | 0.40 | 0.34 | 0.32 | 0.36 | 0.21 | - | |
| 12 | Improves my own written language skills | 0.33 | 0.33 | 0.32 | 0.33 | 0.19 | 0.24 | 0.29 | 0.28 | 0.29 | 0.18 | 0.35 | - |
| 13 | Is observant | 0.29 | 0.29 | 0.34 | 0.31 | 0.22 | 0.29 | 0.36 | 0.31 | 0.27 | 0.33 | 0.19 | 0.24 |
| 14 | Is punctual | 0.19 | 0.20 | 0.11 | 0.17 | 0.18 | 0.14 | 0.20 | 0.16 | 0.14 | 0.20 | 0.18 | 0.15 |
| 15 | Is sensitive to individual diversity | 0.27 | 0.53 | 0.31 | 0.35 | 0.35 | 0.35 | 0.38 | 0.35 | 0.32 | 0.30 | 0.32 | 0.33 |
| 16 | Links theory and practice | 0.32 | 0.30 | 0.38 | 0.27 | 0.24 | 0.37 | 0.32 | 0.35 | 0.36 | 0.24 | 0.38 | 0.32 |
| 17 | Practices cooperative conflict resolution | 0.37 | 0.45 | 0.32 | 0.34 | 0.36 | 0.39 | 0.38 | 0.42 | 0.40 | 0.39 | 0.39 | 0.29 |
| 18 | Promotes anti-oppressive education | 0.33 | 0.51 | 0.29 | 0.27 | 0.25 | 0.28 | 0.29 | 0.34 | 0.33 | 0.24 | 0.26 | 0.29 |
| 19 | Reflects on my personal biases to understand cultural variations | 0.33 | 0.45 | 0.38 | 0.30 | 0.25 | 0.33 | 0.28 | 0.28 | 0.32 | 0.31 | 0.33 | 0.36 |
| 20 | Responds positively to constructive criticism | 0.34 | 0.33 | 0.35 | 0.22 | 0.33 | 0.34 | 0.37 | 0.34 | 0.34 | 0.35 | 0.28 | 0.22 |
| 21 | Supports whole-student growth | 0.30 | 0.40 | 0.41 | 0.41 | 0.40 | 0.37 | 0.39 | 0.40 | 0.40 | 0.37 | 0.32 | 0.23 |
| 22 | Understands exceptionality | 0.26 | 0.36 | 0.29 | 0.26 | 0.24 | 0.31 | 0.35 | 0.38 | 0.31 | 0.31 | 0.36 | 0.23 |
| 23 | Understands the teacher role | 0.34 | 0.31 | 0.27 | 0.37 | 0.32 | 0.37 | 0.41 | 0.33 | 0.40 | 0.33 | 0.37 | 0.36 |

**Correlation Matrix for Relationship Skills Traits (Continued)**[a]

| Trait | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Is observant | - | | | | | | | | | | |
| 14 | Is punctual | 0.19 | - | | | | | | | | | |
| 15 | Is sensitive to individual diversity | 0.27 | 0.19 | - | | | | | | | | |
| 16 | Links theory and practice | 0.26 | 0.20 | 0.26 | - | | | | | | | |
| 17 | Practices cooperative conflict resolution | 0.31 | 0.13 | 0.43 | 0.29 | - | | | | | | |
| 18 | Promotes anti-oppressive education | 0.24 | 0.14 | 0.45 | 0.27 | 0.34 | - | | | | | |
| 19 | Reflects on my personal biases to understand cultural variations | 0.30 | 0.13 | 0.45 | 0.36 | 0.34 | 0.48 | - | | | | |
| 20 | Responds positively to constructive criticism | 0.31 | 0.15 | 0.25 | 0.34 | 0.34 | 0.21 | 0.26 | - | | | |
| 21 | Supports whole-student growth | 0.31 | 0.14 | 0.47 | 0.26 | 0.39 | 0.41 | 0.37 | 0.29 | - | | |
| 22 | Understands exceptionality | 0.24 | 0.21 | 0.42 | 0.28 | 0.36 | 0.31 | 0.31 | 0.25 | 0.36 | - | |
| 23 | Understands the teacher role | 0.27 | 0.26 | 0.36 | 0.36 | 0.35 | 0.27 | 0.28 | 0.34 | 0.32 | 0.34 | - |

[a]All traits are prefaced with "I am a person who…"

**Correlation Matrix for Applied Skills Traits**[a]

| Traits | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Adapts to a changing environment | - | | | | | | | | | | | |
| 2 | Aligns learning experiences with curriculum goals | 0.33 | - | | | | | | | | | | |
| 3 | Anticipates obstacles to learning | 0.42 | 0.31 | - | | | | | | | | | |
| 4 | Applies content to real world problems | 0.41 | 0.30 | 0.36 | - | | | | | | | | |
| 5 | Can recognize student misconceptions | 0.42 | 0.29 | 0.43 | 0.38 | - | | | | | | | |
| 6 | Collaborates with school professionals to facilitate learning | 0.29 | 0.35 | 0.38 | 0.31 | 0.30 | - | | | | | | |
| 7 | Communicates expected outcomes to students | 0.29 | 0.36 | 0.34 | 0.44 | 0.26 | 0.31 | - | | | | | |
| 8 | Designs assessments to support learning goals | 0.38 | 0.40 | 0.41 | 0.41 | 0.38 | 0.39 | 0.41 | - | | | | |
| 9 | Develops strategies to deal with behaviour issues | 0.39 | 0.36 | 0.43 | 0.29 | 0.39 | 0.34 | 0.33 | 0.38 | - | | | |
| 10 | Encourages parent participation | 0.26 | 0.26 | 0.39 | 0.28 | 0.31 | 0.36 | 0.31 | 0.32 | 0.37 | - | | |
| 11 | Ensures participation of all students | 0.38 | 0.40 | 0.45 | 0.36 | 0.34 | 0.35 | 0.32 | 0.41 | 0.41 | 0.39 | - | |
| 12 | Establishes appropriate classroom procedures | 0.33 | 0.39 | 0.45 | 0.36 | 0.44 | 0.36 | 0.34 | 0.46 | 0.46 | 0.39 | 0.39 | - |
| 13 | Establishes cultural links to the subject | 0.36 | 0.23 | 0.34 | 0.44 | 0.37 | 0.26 | 0.32 | 0.39 | 0.35 | 0.30 | 0.34 | 0.33 |
| 14 | Guides students to assess their own learning | 0.30 | 0.26 | 0.40 | 0.32 | 0.42 | 0.39 | 0.36 | 0.39 | 0.33 | 0.36 | 0.32 | 0.36 |
| 15 | Incorporates First Nations & Métis perspectives | 0.25 | 0.31 | 0.26 | 0.30 | 0.26 | 0.31 | 0.30 | 0.32 | 0.32 | 0.27 | 0.34 | 0.24 |
| 16 | Involves students in setting classroom standards | 0.33 | 0.26 | 0.43 | 0.41 | 0.42 | 0.40 | 0.41 | 0.45 | 0.42 | 0.39 | 0.46 | 0.47 |
| 17 | Is not afraid to take risks | 0.39 | 0.25 | 0.32 | 0.36 | 0.34 | 0.27 | 0.32 | 0.28 | 0.38 | 0.21 | 0.23 | 0.28 |
| 18 | Links content to existing knowledge | 0.43 | 0.42 | 0.42 | 0.49 | 0.41 | 0.32 | 0.34 | 0.45 | 0.34 | 0.26 | 0.36 | 0.43 |
| 19 | Maintains appropriate records | 0.34 | 0.44 | 0.35 | 0.29 | 0.34 | 0.36 | 0.38 | 0.40 | 0.41 | 0.32 | 0.33 | 0.40 |
| 20 | Models ethical use of digital information | 0.35 | 0.31 | 0.31 | 0.28 | 0.31 | 0.33 | 0.27 | 0.38 | 0.26 | 0.22 | 0.22 | 0.36 |
| 21 | Monitors student learning to adapt instruction | 0.44 | 0.36 | 0.50 | 0.33 | 0.37 | 0.31 | 0.33 | 0.44 | 0.43 | 0.28 | 0.43 | 0.42 |
| 22 | Organizes the physical environment | 0.34 | 0.37 | 0.36 | 0.32 | 0.26 | 0.39 | 0.31 | 0.40 | 0.41 | 0.36 | 0.40 | 0.41 |
| 23 | Plans lessons daily | 0.20 | 0.23 | 0.26 | 0.20 | 0.25 | 0.20 | 0.19 | 0.29 | 0.23 | 0.20 | 0.22 | 0.25 |
| 24 | Plans multiple ways for students to demonstrate knowledge | 0.35 | 0.37 | 0.38 | 0.43 | 0.40 | 0.35 | 0.38 | 0.41 | 0.39 | 0.34 | 0.35 | 0.44 |
| 25 | Provides clear directions and explanations | 0.37 | 0.40 | 0.47 | 0.37 | 0.43 | 0.38 | 0.36 | 0.44 | 0.39 | 0.35 | 0.41 | 0.49 |
| 26 | Provides effective feedback | 0.43 | 0.38 | 0.37 | 0.34 | 0.38 | 0.34 | 0.31 | 0.41 | 0.42 | 0.29 | 0.34 | 0.42 |
| 27 | Provides multiple representations of concepts | 0.36 | 0.37 | 0.42 | 0.36 | 0.41 | 0.37 | 0.29 | 0.43 | 0.34 | 0.30 | 0.29 | 0.41 |
| 28 | Sequences learning experiences effectively | 0.39 | 0.40 | 0.44 | 0.32 | 0.38 | 0.35 | 0.34 | 0.39 | 0.44 | 0.32 | 0.40 | 0.41 |
| 29 | Shows initiative beyond the classroom | 0.34 | 0.40 | 0.38 | 0.35 | 0.26 | 0.41 | 0.38 | 0.39 | 0.35 | 0.30 | 0.32 | 0.34 |
| 30 | Situates practice within local issues | 0.38 | 0.25 | 0.37 | 0.49 | 0.36 | 0.21 | 0.37 | 0.35 | 0.27 | 0.27 | 0.29 | 0.32 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | Stimulates discussion to probe understanding | 0.31 | 0.32 | 0.39 | 0.35 | 0.30 | 0.25 | 0.35 | 0.34 | 0.27 | 0.23 | 0.27 | 0.37 |
| 32 | Understands the limitations of technology resources | 0.32 | 0.30 | 0.35 | 0.31 | 0.34 | 0.24 | 0.26 | 0.31 | 0.27 | 0.17 | 0.16 | 0.35 |
| 33 | Uses a range of instruction techniques | 0.40 | 0.40 | 0.43 | 0.33 | 0.36 | 0.32 | 0.32 | 0.37 | 0.43 | 0.33 | 0.43 | 0.42 |
| 34 | Uses subject specific methods of inquiry | 0.28 | 0.31 | 0.33 | 0.28 | 0.31 | 0.29 | 0.33 | 0.37 | 0.25 | 0.29 | 0.26 | 0.32 |
| 35 | Uses technology to meet learning needs | 0.31 | 0.30 | 0.34 | 0.25 | 0.34 | 0.30 | 0.24 | 0.32 | 0.33 | 0.18 | 0.23 | 0.33 |

**Correlation Matrix for Applied Skills Traits (Continued)**[a]

| Traits | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Establishes cultural links to the subject | - | | | | | | | | | | | |
| 14 | Guides students to assess their own learning | 0.42 | - | | | | | | | | | | |
| 15 | Incorporates First Nations & Métis perspectives | 0.56 | 0.35 | - | | | | | | | | | |
| 16 | Involves students in setting classroom standards | 0.41 | 0.41 | 0.30 | - | | | | | | | | |
| 17 | Is not afraid to take risks | 0.24 | 0.31 | 0.23 | 0.31 | - | | | | | | | |
| 18 | Links content to existing knowledge | 0.35 | 0.28 | 0.31 | 0.35 | 0.30 | - | | | | | | |
| 19 | Maintains appropriate records | 0.31 | 0.35 | 0.30 | 0.33 | 0.21 | 0.35 | - | | | | | |
| 20 | Models ethical use of digital information | 0.27 | 0.26 | 0.29 | 0.22 | 0.24 | 0.36 | 0.31 | - | | | | |
| 21 | Monitors student learning to adapt instruction | 0.27 | 0.32 | 0.21 | 0.40 | 0.30 | 0.47 | 0.37 | 0.34 | - | | | |
| 22 | Organizes the physical environment | 0.29 | 0.34 | 0.23 | 0.39 | 0.28 | 0.30 | 0.41 | 0.30 | 0.35 | - | | |
| 23 | Plans lessons daily | 0.19 | 0.18 | 0.19 | 0.24 | 0.22 | 0.25 | 0.28 | 0.25 | 0.26 | 0.25 | - | |
| 24 | Plans multiple ways for students to demonstrate knowledge | 0.43 | 0.32 | 0.38 | 0.46 | 0.31 | 0.46 | 0.37 | 0.26 | 0.36 | 0.40 | 0.23 | - |
| 25 | Provides clear directions and explanations | 0.30 | 0.33 | 0.27 | 0.39 | 0.30 | 0.39 | 0.37 | 0.30 | 0.41 | 0.43 | 0.22 | 0.39 |
| 26 | Provides effective feedback | 0.34 | 0.37 | 0.36 | 0.40 | 0.31 | 0.34 | 0.37 | 0.28 | 0.38 | 0.38 | 0.21 | 0.39 |
| 27 | Provides multiple representations of concepts | 0.34 | 0.35 | 0.29 | 0.36 | 0.23 | 0.43 | 0.40 | 0.34 | 0.44 | 0.32 | 0.23 | 0.37 |
| 28 | Sequences learning experiences effectively | 0.33 | 0.41 | 0.31 | 0.35 | 0.35 | 0.37 | 0.40 | 0.43 | 0.43 | 0.47 | 0.27 | 0.36 |
| 29 | Shows initiative beyond the classroom | 0.27 | 0.34 | 0.22 | 0.34 | 0.37 | 0.31 | 0.34 | 0.31 | 0.38 | 0.42 | 0.25 | 0.39 |
| 30 | Situates practice within local issues | 0.51 | 0.42 | 0.40 | 0.41 | 0.37 | 0.35 | 0.23 | 0.29 | 0.29 | 0.28 | 0.17 | 0.39 |
| 31 | Stimulates discussion to probe understanding | 0.31 | 0.27 | 0.23 | 0.39 | 0.22 | 0.40 | 0.25 | 0.34 | 0.40 | 0.27 | 0.24 | 0.38 |
| 32 | Understands the limitations of technology resources | 0.22 | 0.28 | 0.22 | 0.31 | 0.32 | 0.35 | 0.32 | 0.35 | 0.36 | 0.23 | 0.24 | 0.26 |
| 33 | Uses a range of instruction techniques | 0.36 | 0.25 | 0.33 | 0.39 | 0.30 | 0.35 | 0.40 | 0.32 | 0.40 | 0.34 | 0.29 | 0.41 |
| 34 | Uses subject specific methods of inquiry | 0.34 | 0.34 | 0.31 | 0.29 | 0.29 | 0.36 | 0.33 | 0.26 | 0.33 | 0.27 | 0.24 | 0.37 |
| 35 | Uses technology to meet learning needs | 0.29 | 0.28 | 0.28 | 0.30 | 0.29 | 0.34 | 0.35 | 0.44 | 0.33 | 0.32 | 0.22 | 0.34 |

**Correlation Matrix for Applied Skills Traits (Continued)**[a]

| Traits | | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | Provides clear directions and explanations | - | | | | | | | | | | |
| 26 | Provides effective feedback | 0.46 | - | | | | | | | | | |
| 27 | Provides multiple representations of concepts | 0.40 | 0.36 | - | | | | | | | | |
| 28 | Sequences learning experiences effectively | 0.47 | 0.46 | 0.40 | - | | | | | | | |
| 29 | Shows initiative beyond the classroom | 0.33 | 0.38 | 0.36 | 0.41 | - | | | | | | |
| 30 | Situates practice within local issues | 0.31 | 0.37 | 0.32 | 0.38 | 0.33 | - | | | | | |
| 31 | Stimulates discussion to probe understanding | 0.37 | 0.30 | 0.32 | 0.38 | 0.39 | 0.36 | - | | | | |
| 32 | Understands the limitations of technology resources | 0.29 | 0.23 | 0.36 | 0.29 | 0.24 | 0.25 | 0.29 | - | | | |
| 33 | Uses a range of instruction techniques | 0.42 | 0.41 | 0.44 | 0.36 | 0.35 | 0.32 | 0.33 | 0.29 | - | | |
| 34 | Uses subject specific methods of inquiry | 0.34 | 0.31 | 0.36 | 0.36 | 0.31 | 0.38 | 0.24 | 0.28 | 0.35 | - | |
| 35 | Uses technology to meet learning needs | 0.30 | 0.32 | 0.35 | 0.36 | 0.27 | 0.27 | 0.24 | 0.35 | 0.37 | 0.28 | - |

[a]All traits are prefaced with "I am a person who…"

**Correlation Matrix for Expectations Traits**

| Trait | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Advisor[a] | - | | | | | | | | | | | |
| 2 | Collaborator[a] | 0.28 | - | | | | | | | | | | |
| 3 | Guide[a] | 0.45 | 0.44 | - | | | | | | | | | |
| 4 | Instructional coach[a] | 0.43 | 0.35 | 0.46 | - | | | | | | | | |
| 5 | Leader[a] | 0.27 | 0.31 | 0.35 | 0.44 | - | | | | | | | |
| 6 | Scaffolder[a] | 0.31 | 0.40 | 0.40 | 0.33 | 0.32 | - | | | | | | |
| 7 | To provide feedback[a] | 0.49 | 0.40 | 0.40 | 0.37 | 0.19 | 0.24 | - | | | | | |
| 8 | Trouble shooter[a] | 0.28 | 0.28 | 0.29 | 0.34 | 0.37 | 0.41 | 0.21 | - | | | | |
| 9 | Collaborator[b] | 0.29 | 0.55 | 0.33 | 0.21 | 0.21 | 0.28 | 0.41 | 0.17 | - | | | |
| 10 | Observer[b] | 0.22 | 0.23 | 0.23 | 0.32 | 0.33 | 0.29 | 0.19 | 0.31 | 0.13 | - | | |
| 11 | Source of knowledge[b] | 0.18 | 0.27 | 0.21 | 0.26 | 0.31 | 0.28 | 0.23 | 0.23 | 0.27 | 0.33 | - | |
| 12 | To be flexible[b] | 0.30 | 0.23 | 0.26 | 0.22 | 0.29 | 0.20 | 0.39 | 0.14 | 0.38 | 0.23 | 0.21 | - |
| 13 | To provide feedback[b] | 0.18 | 0.24 | 0.28 | 0.30 | 0.30 | 0.25 | 0.27 | 0.30 | 0.27 | 0.31 | 0.36 | 0.25 |
| 14 | To provide respect[b] | 0.25 | 0.36 | 0.27 | 0.23 | 0.20 | 0.22 | 0.34 | 0.11 | 0.44 | 0.25 | 0.26 | 0.44 |
| 15 | Willingness to learn[b] | 0.28 | 0.31 | 0.30 | 0.17 | 0.14 | 0.16 | 0.41 | 0.07 | 0.39 | 0.07 | 0.12 | 0.45 |
| 16 | Emotional development[c] | 0.24 | 0.23 | 0.28 | 0.30 | 0.20 | 0.26 | 0.25 | 0.20 | 0.24 | 0.33 | 0.28 | 0.27 |
| 17 | Pedagogical development[c] | 0.29 | 0.24 | 0.26 | 0.25 | 0.11 | 0.18 | 0.35 | 0.07 | 0.31 | 0.13 | 0.17 | 0.39 |
| 18 | Professional Socialization[c] | 0.24 | 0.31 | 0.28 | 0.22 | 0.25 | 0.20 | 0.20 | 0.13 | 0.29 | 0.29 | 0.25 | 0.26 |
| 19 | Skill development[c] | 0.26 | 0.24 | 0.27 | 0.23 | 0.10 | 0.08 | 0.38 | 0.06 | 0.29 | 0.13 | 0.19 | 0.34 |
| 20 | Teacher preparation[c] | 0.22 | 0.27 | 0.22 | 0.17 | 0.16 | 0.10 | 0.37 | 0.07 | 0.35 | 0.08 | 0.21 | 0.37 |

**Correlation Matrix for Expectations Traits (Continued)**

| Trait | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|
| 13 | To provide feedback[b] | - | | | | | | | |
| 14 | To provide respect[b] | 0.32 | - | | | | | | |
| 15 | Willingness to learn[b] | 0.13 | 0.47 | - | | | | | |
| 16 | Emotional development[c] | 0.32 | 0.32 | 0.20 | - | | | | |
| 17 | Pedagogical development[c] | 0.20 | 0.34 | 0.34 | 0.38 | - | | | |
| 18 | Professional Socialization[c] | 0.22 | 0.38 | 0.25 | 0.51 | 0.35 | - | | |
| 19 | Skill development[c] | 0.16 | 0.29 | 0.41 | 0.33 | 0.56 | 0.40 | - | |
| 20 | Teacher preparation[c] | 0.15 | 0.31 | 0.39 | 0.32 | 0.46 | 0.39 | 0.57 | - |

[a]Prefaced with "The role of the mentor is…"
[b]Prefaced with "The role of the intern is…"
[c]Prefaced with "The goal of the internship is…"

# Appendix I

# The Compatibility Instrument

**Personality**[a]

**Openness**
Is curious about many different things
Is original, comes up with new ideas
Likes to reflect, play with ideas

**Conscientiousness**
Tends to be disorganized
Is easily distracted
Makes plans and follows through with them
Does a thorough job

**Extraversion**
Tends to be quiet
Is sometimes shy, inhibited
Is outgoing, sociable
Generates a lot of enthusiasm
Is full of energy

**Agreeableness**
Is generally trusting
Has a forgiving nature

**Neuroticism**
Is relaxed, handles stress well
Remains calm in tense situations

**Relationship Skills**[a]

**Diversity & Equity**
Addresses educational inequalities
Is sensitive to individual diversity
Understands exceptionality
Practices cooperative conflict resolution

**Temperament**
Has a positive attitude
Builds positive relationships

**Theoretical Foundations**
Has an established philosophy of education
Links theory and practice

**Reflection**
Reflects on my personal biases to understand cultural variations

**Applied Skills**[a]

**Instruction**
Applies content to real world problems
Is not afraid to take risks
Situates practice within local issues
Communicates expected outcomes to students
Adapts to a changing environment

**Cultural Collaboration**
Incorporates First Nations & Métis perspectives
Establishes cultural links to the subject

**Participation**
Encourages parent participation
Ensures participation of all students
Organizes the physical environment

**Technology**
Uses technology to meet learning needs
Models ethical use of digital information

**Expectations**

**Goal of the Internship**
Skill development[b]
Pedagogical development[b]
Teacher preparation[b]
Professional Socialization[b]

**Relationship Development**
Observer[c]
Emotional development[b]
Trouble shooter[d]
Leader[d]
To provide feedback[c]

**Collaboration**
Collaborator[c]
Collaborator[d]

**Intern Development**
To provide feedback[d]
Advisor[d]

[a]Items in this section are prefaced with "I am a person who…"
[b]Prefaced with "The goal of the internship is…"
[c]Prefaced with "The role of the intern is…"
[d]Prefaced with "The role of the mentor is…"